

December 5, 2013

Ms. Kimberly Tisa US Environmental Protection Agency 5 Post Office Square Boston, MA 02109-3912

Subject: 40 CFR 761.61 (c) Risk-Based Cleanup and Disposal Request

Former Capewell Manufacturing Facility 70 Popieluszko Court, Hartford, CT

Dear Ms. Tisa:

This letter is to request approval of risk-based cleanup and disposal intended for the property located at 70 Popieluszko Court in Hartford, CT. This letter supports the submittal of attached information, consistent with the "Risk –Based Cleanup and Disposal Approval 761.61 (c) Checklist" maintained on US Environmental Protection Agency Region I website.

This request is made by CIL Development, Inc., a wholly owned subsidiary of the Corporation for Independent Living (a non-profit community development organization), and supported by the City of Hartford and the State of Connecticut in the specific effort to redevelop the former Capewell Manufacturing facility located at the above noted address.

CIL has established site control through a purchase agreement with the current owner of the property, will acquire the property, undertake the cleanup plan described herein, and redevelop the site only if this risk-based disposal request is accepted and approved by US EPA Region I.

Your review and consideration of this matter is essential to further project progress. We have hired Paul Muniz of Environmental Partners LLC to assist us in preparing this proposal and coordinating the remediation work. We are available to provide sufficient resources or records to assist in your review and approval as you may require.

Please review the attached submittal information and contact Paul Muniz at 860-883-2511 if additional information is necessary, or if you would like to discuss this matter further. Your attention to this matter at your earliest convenience is greatly appreciated.

Sincerely,

Martin Legault President/CEO



Site Background and History

#### Site Background and History

The site is located at 70 Popieluszko Court in Hartford, CT at the location of the former Capewell Manufacturing facility. The site consists of a three-level brick building, approximately 330 feet long and 100 feet wide. In 1893, the original factory building was constructed on the site for use as a horseshoe nail manufacturing company. The current building was reconstructed in 1902 after a fire damaged the original structure. The factory was operated by Capewell Horse Nail Company until 1970 when it was purchased by the Standard Screw Company (later Stanadyne Corporation). The property was sold in 1987 to 60 Governor Street Limited Partnership.

A polychlorinated biphenyl (PCB) study was conducted within the manufacturing facility by Con-Test, Inc. in 1989. Two hundred samples of the concrete floors within the former manufacturing building were collected and analyzed for PCB concentration. Both wipe samples (129) and core samples (71) were collected. Con-Test reported visual staining on each of the three floor levels and PCB concentrations were detected on portions of each floor surface. Con-Test stated that the suspected source of PCB was lubricating oil released from machinery used within the production facility.

Prior to 2006, Capewell Housing, LLC acquired ownership of the property. Capewell Housing obtained a loan from the City of Hartford to develop housing on the site, invested the proceeds in the property, but failed to restore the property and ceased to pay property taxes on the real estate. A City lien was placed on the property. In 2007, Capewell lost possession of the site after the property was awarded to the neighboring owner, Boxer Properties, Inc., as compensation for losses established in a lawsuit. The property is encumbered by the City to the full extent of it's value.

In 2013, CIL established site control through a purchase agreement with Boxer Properties to acquire the real estate. CIL intends to renovate the former manufacturing facility building by conducting asbestos and other hazardous material abatement tasks, including implementation of a 40 CFR 761.61 (c) risk based cleanup and disposal remedy for the PCB staining and residual oil that has been determined to be present on interior floors since 1989. The City of Hartford, the State of Connecticut, and the Capital Region Development Authority have each pledged to invest in the redevelopment of the property for use as rental apartment housing.



**The Nature of the Contamination** 

#### The Nature of the Contamination

PCB, primarily consisting of Aroclor 1254, is present in oil stains present on the concrete floors located on each of the three levels of the building. The concrete floors of the building represent PCB remediation waste. Analytical results have indicated that PCBs are present at concentrations greater 1 mg/kg in concrete samples collected in ½ inch intervals from the floor surface to two inches below the surface of the floors.

In 2006, Environmental Partners, LLC (EP) collected a total of 49 concrete samples from the second and third floors of the building at locations that had been reported to contain PCB staining in the 1989 Con-Test investigation. The 2006 samples were collected using the EPA sampling protocol. Those results are included in Appendix A. The distribution of PCBs identified in 2006 to depths of over one inch below the floor surfaces prevented a potential site redeveloper from any further involvement with the site.

In May, 2013, EP collected 21 concrete samples at second and third floor locations and in June, 2013, EP collected 96 additional samples from second and third floor locations. PCBs were detected at concentrations greater than 1mg/kg at depths of two inches below the concrete floor surface. Results are included in Appendix B.

In July, 2013, EP collected concrete samples from the first floor slab and first floor ceiling, below heavily oil-stained locations of the second floors to determine if PCBs had penetrated completely through the floors to be present at the surface of each respective underlying ceiling. Penetration through the floor was determined not to have taken place. Results are included in Appendix C.

# Appendix A Included on Attached CD





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

### **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	10:30
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59977

**CAPEWELL 2F/D-11.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphenyl	<u>s</u>						
PCB-1016	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/16/06		JH	SW 8082
Total PCBs	9500	0.00	ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





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October 18, 2006

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**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0610:40Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59978

Client ID: CAPEWELL 2F/G-10.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
<b>Polychlorinated Biph</b>	<u>enyls</u>						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	750		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	34		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	33		%	10/17/06		JH	SW 8082

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12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	10:50
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59979

**CAPEWELL 2F/H-11.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/16/06		JH	SW 8082
Total PCBs	5300		ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	10:55
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59980

**CAPEWELL 2F/C-13.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/17/06		K	SW3545
Polychlorinated Biphenyl	$oldsymbol{s}$						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	4400	0.00	ug/Kg	10/17/06		JН	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	71		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	41		%	10/17/06		JН	SW 8082

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12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0611:05Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59981

Client ID: CAPEWELL 2F/B-16/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	94		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/16/06		JН	SW 8082
PCB-1268	ND	4000	ug/Kg	10/16/06		JH	SW 8082
Total PCBs	16000		ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0611:10Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59982

Client ID: CAPEWELL 2F/F-13.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	2500		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	70		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	31		%	10/15/06		JH	SW 8082

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12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	11:15
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59983

**CAPEWELL 2F/H-14.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	100		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Biphenyl	<u>s</u>						
PCB-1016	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	14000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	<b>Custody Infor</b>	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	11:30
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59984

**CAPEWELL 2F/G-15.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	2000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	<b>75</b>		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	43		%	10/15/06		JH	SW 8082

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**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

See "By" Below

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0611:35Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by:

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59985

Client ID: CAPEWELL 2F/D-18/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
<b>Polychlorinated Biph</b>	<u>enyls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	3600		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	89		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	57		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

### **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	11:45
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59986

**CAPEWELL 2F/D-20/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	8000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	25000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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### **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0611:55Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59987

Client ID: CAPEWELL 2F/G-19/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	8000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	14000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0612:05Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59988

Client ID: CAPEWELL 2F/C-22/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	8000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	32000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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### **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	12:15
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59989

**CAPEWELL 2F/H-22.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biphenyl	<u>s</u>						
PCB-1016	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	8000	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	8000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	35000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

**Sample Information Custody Information Time Date Matrix: SOLID** Collected by: 10/12/06 12:25 **Location Code: ENVPARTN** Received by: 10/13/06LB15:11 See "By" Below

**Laboratory Data** 

Rush Request: RUSH# Analyzed by:

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59990

**CAPEWELL 2F/J-21.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Bipheny	l <u>s</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	950		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	72		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	48		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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### **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	<b>12:40</b>
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59991

**CAPEWELL 2F/A-23.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biphenyl	<u>s</u>						
PCB-1016	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	5200		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Fax (860) 645-0823 Tel. (860) 645-1102

# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	13:00
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59992

**CAPEWELL 2F/C-23.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	94		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	8000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	22000		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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**Draft Progress Report** 

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

See "By" Below

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0613:15Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by:

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59993

Client ID: CAPEWELL 2F/C-25.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Biphenyl	l <u>s</u>						
PCB-1016	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	8000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	18000		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JН	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Fax (860) 645-0823 Tel. (860) 645-1102

# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Inform	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	13:25
<b>Location Code:</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
Rush Request:	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59994

**CAPEWELL 2F/G-24.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	20000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	20000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	55000		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

See "By" Below

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0614:45Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by:

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59995

Client ID: CAPEWELL 2F/H-28.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	8000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	8000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	18000		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Fax (860) 645-0823 Tel. (860) 645-1102

# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	13:55
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59996

**CAPEWELL 2F/I-4.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Biphen	<u>yls</u>						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	1700		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	69		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	30		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Fax (860) 645-0823 Tel. (860) 645-1102

# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	14:05
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59997

CAPEWELL 2F/H-11.5/0.5-1.5 Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biphenyl	<u>s</u>						
PCB-1016	ND	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	2000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	2000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	3200		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





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# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	14:15
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59998

CAPEWELL 2F/H-14.5/0.5-1.5 Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CLS/E	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	22000		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Informati	<u>ion</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	14:25
<b>Location Code</b> :	ENVPARTN	Received by: LB	3	10/13/06	15:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH59999

Client ID: CAPEWELL 2F/D-20/0.5-1.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	93		%	10/14/06		$\mathbf{C}/\mathbf{D}$	E160.3
Soil Extraction for PCB	Completed			10/17/06		K	SW3545
Polychlorinated Biph	enyls						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	5600		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	132		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	60		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/12/06	14:30
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH60000

CAPEWELL 2F/H-22.5/0.5-1.5 Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CLS/E	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	4000	ug/Kg	10/17/06		JН	SW 8082
PCB-1221	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/17/06		JН	SW 8082
PCB-1248	ND	4000	ug/Kg	10/17/06		JН	SW 8082
PCB-1254	*	4000	ug/Kg	10/17/06		JН	SW 8082
PCB-1260	*	4000	ug/Kg	10/17/06		JН	SW 8082
PCB-1262	ND	4000	ug/Kg	10/17/06		JН	SW 8082
PCB-1268	ND	4000	ug/Kg	10/17/06		JН	SW 8082
Total PCBs	17000		ug/Kg	10/17/06		JН	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JН	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JН	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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**Draft Progress Report** 

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

**Sample Information Custody Information Time Date Matrix: SOLID** Collected by: 10/12/06 14:30 **Location Code: ENVPARTN** Received by: 10/13/06LB15:11 Analyzed by: See "By" Below

**Laboratory Data** 

Rush Request: RUSH#

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH60001

CAPEWELL 2F/C-23.5/0.5-1.5 Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	94		%	10/14/06		$\mathbf{C}/\mathbf{D}$	E160.3
Soil Extraction for PCB	Completed			10/13/06		CLS/E	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/17/06		JН	SW 8082
PCB-1242	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	12000		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/12/0614:35Location Code:ENVPARTNReceived by:LB10/13/0615:11

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH60002

Client ID: CAPEWELL 2F/MATRIX SPIKE

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CLS/E	SW3545
<b>Polychlorinated Biph</b>	<u>enyls</u>						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	2400		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	65		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	56		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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**Draft Progress Report** 

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

See "By" Below

**Sample Information Custody Information Time Date Matrix: SOLID** Collected by: 10/12/06 14:40 **Location Code: ENVPARTN** Received by: 10/13/06LB15:11 Analyzed by:

**Laboratory Data** 

Rush Request: RUSH#

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH60003

CAPEWELL 2F/MATRIX SPIKE DUP Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	100		%	10/14/06		$\mathbf{C}/\mathbf{D}$	E160.3
Soil Extraction for PCB	Completed			10/13/06		CLS/E	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	1900		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	70		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	<b>50</b>		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

See "By" Below

**Sample Information Custody Information Time Date Matrix: SOLID** Collected by: 10/12/06 14:45 **Location Code: ENVPARTN** Received by: LB10/13/06 15:11 Analyzed by:

**Laboratory Data** 

Rush Request: RUSH#

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH60004

**CAPEWELL 2F/DUP-1** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		$\mathbf{C}/\mathbf{D}$	E160.3
Soil Extraction for PCB	Completed			10/13/06		CLS/E	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JН	SW 8082
Total PCBs	2100		ug/Kg	10/17/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	77		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	43		%	10/17/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 18, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Inform	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	WATER	Collected by:		10/12/06	<b>15:00</b>
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:11
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59977** 

Phoenix I.D.: AH60005

**CAPEWELL 2F/EB-1** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date Time	$\mathbf{B}\mathbf{y}$	Reference
PCB Extraction	Completed			10/16/06	О	SW3510/3520
Polychlorinated Bipheny	<u>ls</u>					
PCB-1016	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>
PCB-1221	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>
PCB-1232	ND	0.5	ug/L	10/17/06	JН	<b>608</b> / <b>8082</b>
PCB-1242	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>
PCB-1248	ND	0.5	ug/L	10/17/06	JH	608/8082
PCB-1254	ND	0.5	ug/L	10/17/06	JH	608/8082
PCB-1260	ND	0.5	ug/L	10/17/06	JH	608/8082
PCB-1262	ND	0.5	ug/L	10/17/06	JH	608/8082
PCB-1268	ND	0.5	ug/L	10/17/06	JH	608/8082
QA/QC Surrogates						
% DCBP (Surrogate Rec)	83		%	10/17/06	JH	608/8082
% TCMX (Surrogate Rec)	74		%	10/17/06	JH	608/8082

#### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59949

Client ID: CAPEWELL 3F/A-9.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		$\mathbf{C}/\mathbf{D}$	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Bipheny	<u>'ls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	2000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	67		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	33		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59950

Client ID: CAPEWELL 3F/B-11.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	95		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	760		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	88		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	37		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59951

Client ID: CAPEWELL 3F/D-8.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Bipher	<u>nyls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	2100		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	68		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	42		%	10/15/06		JН	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>nation</u>	<u>Custody Infor</u>	<u>mation</u>	<u>Date</u>	<b>Time</b>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	: ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>
Rush Requests	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59952

**CAPEWELL 3F/F-9.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	74		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	36		%	10/15/06		JH	SW 8082

#### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	15:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59953

Client ID: CAPEWELL 3F/A-14.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	820		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	<b>72</b>		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	34		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Inform	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b> :	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59954

Client ID: CAPEWELL 3F/F-11.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	400	ug/Kg	10/15/06		JН	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	1800		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	51		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	38		%	10/15/06		JН	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59955

Client ID: CAPEWELL 3F/E-13.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	1500		ug/Kg	10/15/06		JН	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	69		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	31		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Fax (860) 645-0823 Tel. (860) 645-1102

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>iation</u>	<u>Custody Infor</u>	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	<b>15:08</b>
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59956

**Client ID: CAPEWELL 3F/G-13.5/0.5** 

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	95		%	10/14/06		$\mathbf{C}/\mathbf{D}$	E160.3
Soil Extraction for PCB	Completed			10/13/06		CS/E	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	1300		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	60		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	53		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Inform	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b> :	<b>ENVPARTN</b>	Received by:	LB	10/13/06	15:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59957

Client ID: CAPEWELL 3F/D-16/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biphe	nyls						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JН	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	970		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	62		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	38		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Fax (860) 645-0823 Tel. (860) 645-1102

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Inform	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code:</b>	ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>
Rush Request:	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59958

Client ID: **CAPEWELL 3F/G-16/0.5** 

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	93		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545
Polychlorinated Biphen	<u>yls</u>						
PCB-1016	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	8300		ug/Kg	10/15/06		JН	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JН	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

## **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>iation</u>	<b>Custody Infor</b>	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	<b>15:08</b>
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59959

**CAPEWELL 3F/D-20.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference		
Percent Solid	99		%	10/14/06		C/D	E160.3		
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{CS}/\mathbf{E}$	SW3545		
Polychlorinated Biphenyls									
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1254	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1260	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082		
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082		
QA/QC Surrogates									
% DCBP (Surrogate Rec)	93		%	10/15/06		JH	SW 8082		
% TCMX (Surrogate Rec)	40		%	10/15/06		JH	SW 8082		

### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

See "By" Below

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by:

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59960

Client ID: CAPEWELL 3F/G-19.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JН	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JН	SW 8082
Total PCBs	1300		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	<b>52</b>		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	51		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





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**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

See "By" Below

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by:

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59961

Client ID: CAPEWELL 3F/F-22/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
<b>Polychlorinated Biphenyl</b>	<u>s</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	650		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	70		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	56		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59962

Client ID: CAPEWELL 3F/F-26.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphe	<u>enyls</u>						
PCB-1016	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/15/06		JН	SW 8082
PCB-1254	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	9000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59963

Client ID: CAPEWELL 3F/Q-25/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	95		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	1200		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	68		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	30		%	10/15/06		JН	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

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## **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inforn	<u>nation</u>	<u>Custody Infor</u>	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	: ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59964

Client ID: **CAPEWELL 3F/Q-29.5/0.5** 

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	65		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	44		%	10/15/06		JH	SW 8082

### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

**Sample Information Custody Information** Date **Time SOLID Matrix:** Collected by: 10/13/06 9:15 **Location Code: ENVPARTN** Received by: LB 10/13/06 15:08 See "By" Below

**Laboratory Data** 

Rush Request: RUSH# Analyzed by:

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59965

**CAPEWELL 3F/G-17.5/0.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/15/06		JН	SW 8082
PCB-1268	ND	4000	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	9000		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59966

Client ID: CAPEWELL 3F/O-23.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		$\mathbf{C}/\mathbf{D}$	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
Total PCBs	410		ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	69		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	41		%	10/15/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





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**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59967

Client ID: CAPEWELL 3F/O-24.5/0.5

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/16/06		JH	SW 8082
Total PCBs	820		ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	81		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	41		%	10/16/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

## **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inforn	<u>nation</u>	<u>Custody Infor</u>	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	: ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59968

**CAPEWELL 3F/B-11.5/0.5-1.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	99		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphenyl	<u>ls</u>						
PCB-1016	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	57		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	30		%	10/16/06		JH	SW 8082

### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





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## **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>nation</u>	<u>Custody Infor</u>	<u>mation</u>	<u>Date</u>	<b>Time</b>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	: ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>
Rush Requests	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59969

**CAPEWELL 3F/F-9.5/0.5-1.5** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	100		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Bipheny	<u>ls</u>						
PCB-1016	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1254	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1260	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/15/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/15/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	83		%	10/15/06		JH	SW 8082
% TCMX (Surrogate Rec)	30		%	10/15/06		JH	SW 8082

### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59970

**Client ID: CAPEWELL 3F/E-13.5/0.5-1.5** 

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	98		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/16/06		JH	SW 8082
Total PCBs	1300		ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	49		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	37		%	10/16/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Fax (860) 645-0823 Tel. (860) 645-1102

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	<b>ENVPARTN</b>	Received by:	LB	10/13/06	<b>15:08</b>
<b>Rush Request:</b>	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59971

Client ID: **CAPEWELL 3F/G-16/0.5-1.5** 

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	93		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphenyl	<u>s</u>						
PCB-1016	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/16/06		JH	SW 8082
Total PCBs	470		ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	56		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	42		%	10/16/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	<b>Custody Information</b>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:	10/13/06	9:15
<b>Location Code</b> :	ENVPARTN	Received by: LB	10/13/06	15:08

**Laboratory Data** 

Analyzed by: See "By" Below

Rush Request: RUSH#

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59972

**Client ID: CAPEWELL 3F/F-26.5/0.5-1.5** 

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	96		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	*	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	4000	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	4000	ug/Kg	10/16/06		JH	SW 8082
Total PCBs	13000		ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	diluted out		%	10/16/06		JH	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

**Draft Progress Report** 

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:10/13/069:15Location Code:ENVPARTNReceived by:LB10/13/0615:08

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59973

Client ID: CAPEWELL 3F/MATRIX SPIKE

Parameter	Result	$\mathbf{RL}$	Units	Date 7	Гime	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/17/06		K	SW3545
Polychlorinated Biph	<u>enyls</u>						
PCB-1016	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JH	SW 8082
Total PCBs	580		ug/Kg	10/17/06		JН	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	59		%	10/17/06		JН	SW 8082
% TCMX (Surrogate Rec)	43		%	10/17/06		JН	SW 8082

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>nation</u>	<u>Custody Infor</u>	<u>mation</u>	<u>Date</u>	<b>Time</b>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code</b>	: ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>
Rush Requests	RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59974

**CAPEWELL 3F/MATRIX SPIKE DUP** Client ID:

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	95		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/13/06		$\mathbf{C}/\mathbf{S}/\mathbf{E}$	SW3545
Polychlorinated Biphenyls							
PCB-1016	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1221	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1242	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1254	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1260	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1262	ND	400	ug/Kg	10/16/06		JH	SW 8082
PCB-1268	ND	400	ug/Kg	10/16/06		JH	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	<b>52</b>		%	10/16/06		JH	SW 8082
% TCMX (Surrogate Rec)	31		%	10/16/06		JH	SW 8082

#### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

PLEASE NOTE: THIS PROGRESS REPORT IS CONSIDERED PRELIMINARY DATA. THE RESULTS ENTERED HAVE NOT BEEN EXAMINED BY OUR QA/QC DEPARTMENT.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Inform	<u>ation</u>	Custody Infor	<u>mation</u>	<u>Date</u>	<u>Time</u>
Matrix:	SOLID	Collected by:		10/13/06	9:15
<b>Location Code:</b>	ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>

**Laboratory Data** 

Rush Request: RUSH# Analyzed by: See "By" Below

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59975

Client ID: CAPEWELL 3F/DUP-1

Parameter	Result	$\mathbf{RL}$	Units	Date	Time	$\mathbf{B}\mathbf{y}$	Reference
Percent Solid	97		%	10/14/06		C/D	E160.3
Soil Extraction for PCB	Completed			10/17/06		K	SW3545
Polychlorinated Biphe	enyls						
PCB-1016	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1221	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1232	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1242	ND	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1248	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1254	*	400	ug/Kg	10/17/06		JH	SW 8082
PCB-1260	*	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1262	ND	400	ug/Kg	10/17/06		JН	SW 8082
PCB-1268	ND	400	ug/Kg	10/17/06		JН	SW 8082
Total PCBs	3400		ug/Kg	10/17/06		JН	SW 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	80		%	10/17/06		JH	SW 8082
% TCMX (Surrogate Rec)	<b>76</b>		%	10/17/06		JH	SW 8082

## **Comments:** ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

\*For PCBs, as per section 7.9.3, when a sample contains more than one aroclor, quantitation may be performed by using the total area of the PCB pattern to that of the acroclor is mostly resembles. The aroclors present in this sample were 1254 and 1260.

A standard containing a mixture of both aroclors was used for quantitation.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

PLEASE NOTE: THIS PROGRESS REPORT IS CONSIDERED PRELIMINARY DATA. THE RESULTS ENTERED HAVE NOT BEEN EXAMINED BY OUR QA/QC DEPARTMENT.





587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040 Tel. (860) 645-1102 Fax (860) 645-0823

# **Draft Progress Report**

October 17, 2006

FOR: Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Sample Infor	<u>mation</u>	<u>Custody Infor</u>	<u>mation</u>	$\underline{\mathbf{Date}}$	<u>Time</u>
Matrix:	WATER	Collected by:		10/13/06	9:15
<b>Location Cod</b>	e: ENVPARTN	Received by:	LB	10/13/06	<b>15:08</b>
Rush Request	: RUSH#	Analyzed by:	See "By" Below		

**Laboratory Data** 

P.O.#: 5758.016

**SDG I.D.: GAH59949** 

Phoenix I.D.: AH59976

Client ID: **CAPEWELL 3F/EB-2** 

Parameter	Result	$\mathbf{RL}$	Units	Date Time	$\mathbf{B}\mathbf{y}$	Reference	
PCB Extraction	Completed			10/16/06	O	SW3510/3520	
Polychlorinated Biphenyls							
PCB-1016	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>	
PCB-1221	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>	
PCB-1232	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>	
PCB-1242	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>	
PCB-1248	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>	
PCB-1254	ND	0.5	ug/L	10/17/06	JH	608/8082	
PCB-1260	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>	
PCB-1262	ND	0.5	ug/L	10/17/06	JH	<b>608</b> / <b>8082</b>	
PCB-1268	ND	0.5	ug/L	10/17/06	JH	608/8082	
QA/QC Surrogates							
% DCBP (Surrogate Rec)	89		%	10/17/06	JH	<b>608</b> / <b>8082</b>	
% TCMX (Surrogate Rec)	59		%	10/17/06	JH	608/8082	

#### **Comments:**

ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

PLEASE NOTE: THIS PROGRESS REPORT IS CONSIDERED PRELIMINARY DATA. THE RESULTS ENTERED HAVE NOT BEEN EXAMINED BY OUR QA/QC DEPARTMENT.

# Appendix B Included on Attached CD



**Tuesday, May 21, 2013** 

Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Project ID: CAPEWELL

Sample ID#s: BD79698 - BD79718

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

**Laboratory Director** 

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007

**ME Lab Registration #CT-007** 

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301

PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

SDG ID: GBD79698 Phoenix ID: BD79698

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/138:40Location Code:ENVPARTNReceived by:SW05/16/1314:20

**Laboratory Data** 

Rush Request: Standard Analyzed by: see "By" below

Project ID: CAPEWELL

Client ID: D-7

P.O.#:

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	05/17/13	LB	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	4700	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	450	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	450	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	92		%	05/17/13	AW	30 - 150 %
% TCMX	81		%	05/17/13	AW	30 - 150 %

Page 1 of 42 Ver 1

Client ID: D-7

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

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Phyllis Shiller, Laboratory Director

May 21, 2013

Reviewed and Released by: Maryam Taylor, Project Manager

Page 2 of 42 Ver 1



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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample Information **Custody Information** Date Time Collected by: Matrix: **SOLID** 05/14/13 8:55 Received by: Location Code: **ENVPARTN** SW 05/16/13 14:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: **Laboratory Data** 

SDG ID: GBD79698

Phoenix ID: BD79699

**CAPEWELL** Project ID:

Client ID: D-9

RI/

		KL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	05/17/13	LB	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	23000	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	3300	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	05/17/13	AW	30 - 150 %
% TCMX	Diluted Out		%	05/17/13	AW	30 - 150 %

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Client ID: D-9

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

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May 21, 2013

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Page 4 of 42 Ver 1



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# **Analysis Report**

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/139:10Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79700

Project ID: CAPEWELL

Client ID: E-27.5

RL/

		KL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	98		%	05/16/13	JL	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	2100	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	330	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	87		%	05/17/13	AW	30 - 150 %
% TCMX	84		%	05/17/13	AW	30 - 150 %

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Project ID: CAPEWELL Phoenix I.D.: BD79700
Client ID: E-27.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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May 21, 2013

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample Information **Custody Information** Date Time Collected by: Matrix: **SOLID** 05/14/13 9:30 Received by: Location Code: **ENVPARTN** SW 05/16/13 14:20

Rush Request: Standard Analyzed by: see "By" below

**Laboratory Data** SDG ID: GBD79698 Phoenix ID: BD79701

**CAPEWELL** Project ID:

Client ID: F-8

P.O.#:

Davometer	Doordt	RL/	l loite	Data/Time	D	Deference
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	05/17/13	LB	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	7800	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	2200	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	05/17/13	AW	30 - 150 %
% TCMX	Diluted Out		%	05/17/13	AW	30 - 150 %

Page 7 of 42 Ver 1

Client ID: F-8

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

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May 21, 2013

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Page 8 of 42 Ver 1



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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample Information **Custody Information** Date Time Collected by: Matrix: **SOLID** 05/14/13 9:45 Received by: Location Code: **ENVPARTN** SW 05/16/13 14:20

see "By" below Rush Request: Standard Analyzed by:

**Laboratory Data** SDG ID: GBD79698

Phoenix ID: BD79702

**CAPEWELL** Project ID:

Client ID: H-9

P.O.#:

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	05/17/13	LB	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	6500	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	3700	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	05/17/13	AW	30 - 150 %
% TCMX	Diluted Out		%	05/17/13	AW	30 - 150 %

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Client ID: H-9

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

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May 21, 2013

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Page 10 of 42 Ver 1



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# **Analysis Report**

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/139:55Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79703

Project ID: CAPEWELL

Client ID: H-11.5

RL/

		KL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	98		%	05/16/13	JL	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	3300	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	05/17/13	AW	30 - 150 %
% TCMX	Diluted Out		%	05/17/13	AW	30 - 150 %

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Project ID: CAPEWELL Phoenix I.D.: BD79703
Client ID: H-11.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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May 21, 2013

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1310:10Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79704

Project ID: CAPEWELL

Client ID: H-15.5

RL/

		KL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	95		%	05/16/13	JL	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	6700	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	1700	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	05/17/13	AW	30 - 150 %
% TCMX	Diluted Out		%	05/17/13	AW	30 - 150 %

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Client ID: H-15.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

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Phyllis Shiller, Laboratory Director

May 21, 2013

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Page 14 of 42 Ver 1



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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1311:05Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79705

Project ID: CAPEWELL

Client ID: 1-9

RL/ **PQL** Units Date/Time Parameter Result By Reference Percent Solid 100 % 05/17/13 LB E160.3 1 Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 330 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 330 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 05/17/13 ΑW 330 ug/Kg PCB-1242 ND 330 05/17/13 ΑW 3540C/8082 ug/Kg ND 330 05/17/13 AW 3540C/8082 PCB-1248 ug/Kg 1200 ug/Kg 3540C/8082 PCB-1254 330 05/17/13 AW 3540C/8082 PCB-1260 ND 330 ug/Kg 05/17/13 ΑW PCB-1262 ND 330 ug/Kg 05/17/13 ΑW 3540C/8082 ND 330 05/17/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 106 % 05/17/13 AW 30 - 150 % % TCMX 91 % 05/17/13 30 - 150 %

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Client ID: I-9

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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Phyllis Shiller, Laboratory Director

May 21, 2013

Reviewed and Released by: Maryam Taylor, Project Manager

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1311:15Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

Diluted Out

<u>aboratory Data</u> SDG ID: GBD79698

Phoenix ID: BD79706

30 - 150 %

Project ID: CAPEWELL

Client ID: I-13.5

P.O.#:

% TCMX

RL/ Parameter **PQL** Units Date/Time Result By Reference Percent Solid 97 % 05/16/13 E160.3 JL Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 1700 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 1700 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 1700 ΑW ug/Kg 05/17/13 PCB-1242 ND 1700 05/17/13 ΑW 3540C/8082 ug/Kg ND 1700 05/17/13 AW 3540C/8082 PCB-1248 ug/Kg 6000 ug/Kg 3540C/8082 PCB-1254 1700 05/17/13 AW 1700 3540C/8082 PCB-1260 ND ug/Kg 05/17/13 ΑW PCB-1262 ND 1700 ug/Kg 05/17/13 ΑW 3540C/8082 ND 1700 05/17/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP Diluted Out % 05/17/13 AW 30 - 150 %

%

Page 17 of 42 Ver 1

05/17/13

Client ID: I-13.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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May 21, 2013

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# **Analysis Report**

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1311:25Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79707

Project ID: CAPEWELL

Client ID: I-19.5

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	05/17/13	LB	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	1000	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	330	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	330	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	82		%	05/17/13	AW	30 - 150 %
% TCMX	92		%	05/17/13	AW	30 - 150 %

Page 19 of 42 Ver 1

Client ID: I-19.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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Phyllis Shiller, Laboratory Director

May 21, 2013

Reviewed and Released by: Maryam Taylor, Project Manager

Page 20 of 42 Ver 1



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# **Analysis Report**

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1311:50Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79708

Project ID: CAPEWELL

Client ID: J-11.5

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 05/17/13 LB E160.3 1 Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 720 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 720 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND ΑW 720 ug/Kg 05/17/13 PCB-1242 ND 720 05/17/13 ΑW 3540C/8082 ug/Kg ND 720 05/17/13 AW 3540C/8082 PCB-1248 ug/Kg 2600 ug/Kg 3540C/8082 PCB-1254 720 05/17/13 AW 3540C/8082 PCB-1260 ND 720 ug/Kg 05/17/13 AW PCB-1262 ND 720 ug/Kg 05/17/13 AW 3540C/8082 ND 720 05/17/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 75 % 05/17/13 AW 30 - 150 % % TCMX 86 % 05/17/13 30 - 150 %

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Project ID: CAPEWELL Phoenix I.D.: BD79708
Client ID: J-11.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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Phyllis Shiller, Laboratory Director

May 21, 2013

Reviewed and Released by: Maryam Taylor, Project Manager

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1312:00Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79709

Project ID: CAPEWELL

Client ID: J-19

RL/ **PQL** Units Date/Time Parameter Result By Reference Percent Solid 100 % 05/17/13 LB E160.3 1 Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 320 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 320 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 05/17/13 ΑW 320 ug/Kg PCB-1242 ND 320 05/17/13 ΑW 3540C/8082 ug/Kg ND 320 05/17/13 AW 3540C/8082 PCB-1248 ug/Kg 2100 ug/Kg 3540C/8082 PCB-1254 320 05/17/13 AW 3540C/8082 PCB-1260 ND 320 ug/Kg 05/17/13 AW PCB-1262 ND 320 ug/Kg 05/17/13 AW 3540C/8082 ND 320 05/17/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 98 % 05/17/13 AW 30 - 150 % % TCMX 88 % 05/17/13 30 - 150 %

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Client ID: J-19

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

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May 21, 2013

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# **Analysis Report**

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1312:10Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

**Laboratory Data** 

SDG ID: GBD79698

Phoenix ID: BD79710

Project ID: CAPEWELL

Client ID: J-24.5

P.O.#:

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 05/17/13 LB E160.3 1 Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 520 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 520 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 520 05/17/13 ΑW ug/Kg PCB-1242 ND 520 05/17/13 ΑW 3540C/8082 ug/Kg ND 520 05/17/13 AW 3540C/8082 PCB-1248 ug/Kg 1700 ug/Kg 3540C/8082 PCB-1254 520 05/17/13 AW 3540C/8082 PCB-1260 ND 520 ug/Kg 05/17/13 AW PCB-1262 ND 520 ug/Kg 05/17/13 AW 3540C/8082 ND 520 05/17/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 91 % 05/17/13 AW 30 - 150 % % TCMX 90 % 05/17/13 30 - 150 %

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Project ID: CAPEWELL Phoenix I.D.: BD79710
Client ID: J-24.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1312:25Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79711

Project ID: CAPEWELL

Client ID: J-28.5

RL/

		KL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	94		%	05/16/13	JL	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	950	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	350	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	350	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	92		%	05/17/13	AW	30 - 150 %
% TCMX	83		%	05/17/13	AW	30 - 150 %

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Project ID: CAPEWELL Phoenix I.D.: BD79711
Client ID: J-28.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

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12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1312:40Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79712

Project ID: CAPEWELL

Client ID: J-4.5

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 05/17/13 LB E160.3 1 Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 510 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 510 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 05/17/13 ΑW 510 ug/Kg PCB-1242 ND 510 05/17/13 ΑW 3540C/8082 ug/Kg ND 510 05/17/13 AW 3540C/8082 PCB-1248 ug/Kg 3300 ug/Kg 3540C/8082 PCB-1254 510 05/17/13 AW 3540C/8082 PCB-1260 ND 510 ug/Kg 05/17/13 AW PCB-1262 ND 510 ug/Kg 05/17/13 ΑW 3540C/8082 ND 510 05/17/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 80 % 05/17/13 AW 30 - 150 % % TCMX 90 % 05/17/13 30 - 150 %

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Client ID: J-4.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

## **Comments:**

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1313:30Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79713

Project ID: CAPEWELL

Client ID: K-21.5

RL/ **PQL** Units Date/Time Parameter Result By Reference Percent Solid 100 % 05/17/13 LB E160.3 1 Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 380 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 380 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND ΑW 380 ug/Kg 05/17/13 PCB-1242 ND 380 05/17/13 ΑW 3540C/8082 ug/Kg ND 380 05/17/13 AW 3540C/8082 PCB-1248 ug/Kg ug/Kg 3540C/8082 PCB-1254 1300 380 05/17/13 AW 3540C/8082 PCB-1260 ND 380 ug/Kg 05/17/13 AW PCB-1262 ND 380 ug/Kg 05/17/13 AW 3540C/8082 ND 380 05/17/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 84 % 05/17/13 AW 30 - 150 % % TCMX 58 % 05/17/13 30 - 150 %

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Project ID: CAPEWELL Phoenix I.D.: BD79713
Client ID: K-21.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1314:10Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79714

Project ID: CAPEWELL

Client ID: Q-24.5

RL/ Parameter **PQL** Units Date/Time Result By Reference Percent Solid 97 % 05/16/13 JL E160.3 Extraction for PCB PP/K SW3540C Completed 05/16/13 PCB (Soxhlet) PCB-1016 ND 340 ug/Kg 05/17/13 AW 3540C/8082 PCB-1221 ND 3540C/8082 340 ug/Kg 05/17/13 ΑW

PCB-1232	ND	340	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1242	ND	340	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1248	ND	340	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1254	2200	340	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1260	ND	340	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1262	ND	340	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1268	ND	340	ug/Kg	05/17/13	AW	3540C/8082	
QA/QC Surrogates							
% DCBP	81		%	05/17/13	AW	30 - 150 %	
% TCMX	83		%	05/17/13	AW	30 - 150 %	

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Client ID: Q-24.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1314:30Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79715

Project ID: CAPEWELL

Client ID: Q-25.5

P.O.#:

RL/ **PQL** Units Date/Time Parameter Result By Reference Percent Solid 98 % 05/16/13 E160.3 JL Extraction for PCB Completed 05/16/13 PP/K SW3540C PCB (Soxhlet) PCB-1016 ND 340 ug/Kg 05/17/13 ΑW 3540C/8082 PCB-1221 ND 340 ug/Kg 05/17/13 AW 3540C/8082 3540C/8082 PCB-1232 ND ΑW 340 ug/Kg 05/17/13 PCB-1242 ND 05/17/13 ΑW 3540C/8082 340 ug/Kg ND 05/17/13 AW 3540C/8082 PCB-1248 340 ug/Kg ug/Kg 3540C/8082 PCB-1254 580 340 05/17/13 AW 3540C/8082 PCB-1260 ND 340 ug/Kg 05/17/13 AW

PCB-1262 ND 340 ug/Kg 05/17/13 ΑW 3540C/8082 ND 05/17/13 ΑW 3540C/8082 PCB-1268 340 ug/Kg **QA/QC Surrogates** % DCBP 84 % 05/17/13 AW 30 - 150 % % TCMX 81 % 05/17/13 30 - 150 %

Page 35 of 42 Ver 1

Client ID: Q-25.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

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May 21, 2013

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Page 36 of 42 Ver 1



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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1314:45Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79716

Project ID: CAPEWELL

Client ID: Q-26.5

RL/

	KL/				
Result	PQL	_ Units Date/Time		Ву	Reference
100		%	05/16/13	JL	E160.3
Completed			05/16/13	PP/K	SW3540C
ND	320	ug/Kg	05/17/13	AW	3540C/8082
ND	320	ug/Kg	05/17/13	AW	3540C/8082
ND	320	ug/Kg	05/17/13	AW	3540C/8082
ND	320	ug/Kg	05/17/13	AW	3540C/8082
ND	320	ug/Kg	05/17/13	AW	3540C/8082
1200	320	ug/Kg	05/17/13	AW	3540C/8082
ND	320	ug/Kg	05/17/13	AW	3540C/8082
ND	320	ug/Kg	05/17/13	AW	3540C/8082
ND	320	ug/Kg	05/17/13	AW	3540C/8082
92		%	05/17/13	AW	30 - 150 %
86		%	05/17/13	AW	30 - 150 %
	100 Completed  ND ND ND ND ND ND ND ND 1200 ND	Result PQL  100 Completed  ND 320	100 Completed  ND 320 ug/Kg	Result         PQL         Units         Date/Time           100         %         05/16/13           Completed         05/16/13           ND         320         ug/Kg         05/17/13           92         %         05/17/13	Result         PQL         Units         Date/Time         By           100         %         05/16/13         JL           Completed         05/16/13         PP/K           ND         320         ug/Kg         05/17/13         AW           ND         320         ug/Kg         05/17/13         AW

Page 37 of 42 Ver 1

Client ID: Q-26.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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## **Analysis Report**

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1315:20Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79717

Project ID: CAPEWELL

Client ID: R-25.5

RL/

		KL/				
Parameter	Result	PQL	L Units Date/Time		Ву	Reference
Percent Solid	96		%	05/16/13	JL	E160.3
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1221	ND	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1232	ND	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1242	ND	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1248	ND	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1254	590	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1260	ND	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1262	ND	340	ug/Kg	05/17/13	AW	3540C/8082
PCB-1268	ND	340	ug/Kg	05/17/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	83		%	05/17/13	AW	30 - 150 %
% TCMX	90		%	05/17/13	AW	30 - 150 %

Page 39 of 42 Ver 1

Project ID: CAPEWELL Phoenix I.D.: BD79717
Client ID: R-25.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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**Analysis Report** 

May 21, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:05/14/1315:55Location Code:ENVPARTNReceived by:SW05/16/1314:20

Rush Request: Standard Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD79698

Phoenix ID: BD79718

Project ID: CAPEWELL

Client ID: G-26.5

RL/

		KL/					
Parameter	Result	PQL	Units	Inits Date/Time By		Reference	
Percent Solid	99		%	05/16/13	JL	E160.3	
Extraction for PCB	Completed			05/16/13	PP/K	SW3540C	
PCB (Soxhlet)							
PCB-1016	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1221	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1232	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1242	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1248	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1254	1300	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1260	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1262	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
PCB-1268	ND	330	ug/Kg	05/17/13	AW	3540C/8082	
QA/QC Surrogates							
% DCBP	76		%	05/17/13	AW	30 - 150 %	
% TCMX	79		%	05/17/13	AW	30 - 150 %	

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Client ID: G-26.5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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May 21, 2013

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Page 42 of 42 Ver 1



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# QA/QC Report

May 21, 2013

### QA/QC Data

ICS ICSD ICS

SDG I.D.: GBD79698

Parameter	Blank		.CS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	RPD Limits
QA/QC Batch 230638, QC Sample No: BD78472 (BD79698, BD79699, BD79700, BD79718)										
Polychlorinated Biphen	yls - Solid									
PCB-1016	ND	:	83	81	2.4	85	85	0.0	40 - 140	30
PCB-1221	ND								40 - 140	30
PCB-1232	ND								40 - 140	30
PCB-1242	ND								40 - 140	30
PCB-1248	ND								40 - 140	30
PCB-1254	ND								40 - 140	30
PCB-1260	ND	:	84	82	2.4	84	79	6.1	40 - 140	30
PCB-1262	ND								40 - 140	30
PCB-1268	ND								40 - 140	30
% DCBP (Surrogate Rec)	99	:	86	83	3.6	90	85	5.7	30 - 150	30
% TCMX (Surrogate Rec)	80	;	84	76	10.0	88	87	1.1	30 - 150	30
QA/QC Batch 230787, QC Sa BD79708, BD79709, BD79710 Polychlorinated Biphen	0, BD79711, BD79712								, BD7970	7,
PCB-1016	ND		68	70	2.9				40 - 140	30
PCB-1221	ND	· ·	00	70	2.7				40 - 140	30
PCB-1232	ND								40 - 140	30
PCB-1242	ND								40 - 140	30
PCB-1248	ND								40 - 140	30
PCB-1254	ND								40 - 140	30
PCB-1260	ND		67	65	3.0				40 - 140	30
PCB-1262	ND								40 - 140	30
PCB-1268	ND								40 - 140	30
% DCBP (Surrogate Rec)	87	:	84	88	4.7				30 - 150	30
% TCMX (Surrogate Rec)	75		76	78	2.6				30 - 150	30
Comment:										
A LCS and LCS Duplicate were	performed instead of a ma	itrix spike and matrix s	spike o	duplicate.						

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

May 21, 2013

Tuesday, May 21, 2013

### **Sample Criteria Exceedences Report GBD79698 - ENVPARTN**

State: CT

Requested Criteria: GAM

RLAnalysis SampNo Acode Phoenix Analyte Criteria Result RLCriteria Criteria Units

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Page 1 of 1

<sup>\*\*\*</sup> No Data to Display \*\*\*

## Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Phoenix Environmental Labs, Inc. Client: **ENVPARTN** Project Location: CAPEWELL **Project Number:** Laboratory Sample ID(s): BD79698, BD79699, BD79700, BD79701, BD79702, BD79703, BD79704, BD79705, BD79706, BD79707, BD79708, BD79709, BD79710, BD79711, BD79712, BD79713, BD79714, BD79715, BD79716, BD79717, BD79718 **Sampling Date(s):** 5/14/2013 **RCP Methods Used:** 1311/1312 6010 7000 7196 ☐ EPH TO15 7470/7471 ✔ 8082 8270 ☐ ETPH 9010/9012 ☐ VPH 8260 8151 For each analytical method referenced in this laboratory report package, were all ✓ Yes □ No specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP methodspecific Reasonable Confidence Protocol documents? Were the method specified preservation and holding time requirements met? 1a. ✓ Yes □ No EPH and VPH methods only: Was the VPH or EPH method conducted without 1b. ☐ Yes ☐ No **✓** NA significant modifications (see section 11.3 of respective RCP methods) 2. Were all samples received by the laboratory in a condition consistent with that ✓ Yes No. described on the associated Chain-of-Custody document(s)? Were samples received at an appropriate temperature (< 6 Degrees C)? 3. ☐ Yes ✓ No  $\square$  NA Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol 4. ✓ Yes □ No documents achieved? Were reporting limits specified or referenced on the chain-of-custody? 5a. ✓ Yes □ No Were these reporting limits met? 5b. ✓ Yes □ No  $\square$  NA For each analytical method referenced in this laboratory report package, were results 6. ✓ Yes □ No  $\square$  NA reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents? Are project-specific matrix spikes and laboratory duplicates included in the data set? ☐ Yes ✓ No  $\square$  NA Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowlegde and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. Date: Tuesday, May 21, 2013 Authorized Printed Name: Maryam Taylor Signature: Position: Project Manager



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



# **RCP Certification Report**

May 21, 2013

**SDG I.D.: GBD79698** 

#### **PCB Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

**Instrument:** Au-ecd24 05/17/13-1 (BD79699)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

Printed Name Adam Werner Position: Chemist Date: 5/17/2013

**Instrument:** Au-ecd3 05/17/13-1 (BD79698, BD79700, BD79701, BD79702, BD79703,

BD79704, BD79705, BD79706, BD79707, BD79708, BD79709, BD79710, BD79711, BD79712, BD79713, BD79714, BD79715, BD79716, BD79717,

BD79718)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

Printed Name Adam Werner Position: Chemist Date: 5/17/2013

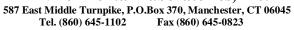
**QC** Batch 230787 05/16/13 (BD79701, BD79702, BD79703, BD79704, BD79705,

BD79706, BD79707, BD79708, BD79709, BD79710, BD79711, BD79712,

BD79713, BD79714, BD79715, BD79716, BD79717)

 $A\,LCS\ and\ LCS\ Duplicate\ were\ performed\ instead\ of\ a\ matrix\ spike\ and\ matrix\ spike\ duplicate.$ 







# **RCP** Certification Report

May 21, 2013

**SDG I.D.: GBD79698** 

QC (Site Specific)
Sample No: BD79701, QA/QC Batch: 230787
All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria. <b>QC (Batch Specific)</b>
Sample No: BD78472, QA/QC Batch: 230638
All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

### **Temperature Narration**

The samples in this delivery group were received at 28°C. (Note acceptance criteria is above freezing up to 6°C)

Cooler: Yes ☐ No[7] Coolant: IPK ☐ ICE ☐ NA \* SURCHARGE APPLIES Phoenix Std Report X Enail JAWAKTZP CHPY 100M Full Data Package\* Tuggs ricen is Q004519059 Data Package ŏ Data Format Excel
PDF
GIS/Key EQuIS □ Other Other Temp 28 °C Pg S-2
| S-3
| MWRA eSMART MA MCP Certification Project P.O: D Phone #: Fax #: GW-1 GW-2 GW-3 Data Delivery: □ S-1 State where samples were collected: Residential DEC Other ( ) ( ) CT X RCP Cert X CW Protection SW Protection GB Mobility S GA Mobility 1/2011 (-E MUMIZ RI Direct Exposure (Residential) 587 East Middle Turnpike, Manchester, CT 06040 Email: info@phoenixlabs com Fax (860) 645-0823 Client Services (860) 645-8726 **CHAIN OF CUSTODY RECORD** らあるた ☐ Other ™ □ d \* SURCHARGE APPLIES TO THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO THE PERSON NAMED IN COLUM nvoice to: Report to: 3 Days.
Standard
Other Turnaround:
1 Day\*
2 Days\* Analysis Request Project: CHEL 1530 19/12 15 30 <u>4</u>10 5/14/3 Time クラス コス Matrix Code.

DW=Drinking Water GW=Ground Water SW=Surface Water MW=Waste Water SE=Sediment SL=Sudge S=Soil/Solid W=Wipe O=pther レビュレ Date Date Joyn detectionlimit Client Sample - Information - Identification Sample Matrix Tarket. 40 the Harry  $\bigcirc$ Environmental Laboratories, Inc. Comments, Special Requirements or Regulations: Asserted by Customer Sample A JUSTANOMEN 7 N ナイトイル・S PHOENIX USE ONLY Customer: Address: Sampler's Signature 197 197 しなし このに ā L 79 2



**Tuesday, June 25, 2013** 

Attn: Mr. Paul Muniz

**Environmental Partners, LLC** 

12 Fourth Avenue Branford, CT 06405

Project ID: CAPEWELL

Sample ID#s: BD93536 - BD93559

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

**Laboratory Director** 

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007

**ME Lab Registration #CT-007** 

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301

PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



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## **Analysis Report**

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD93536

Phoenix ID: BD93536

Project ID: CAPEWELL

Client ID: 1

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 760 ug/Kg 06/19/13 ΑW 3540C/8082 PCB-1221 ND 760 ug/Kg 06/19/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 760 06/19/13 ΑW ug/Kg PCB-1242 ND 760 06/19/13 ΑW 3540C/8082 ug/Kg ND 760 06/19/13 AW 3540C/8082 PCB-1248 ug/Kg ug/Kg 3540C/8082 PCB-1254 ND 760 06/19/13 AW 760 3540C/8082 PCB-1260 ND ug/Kg 06/19/13 ΑW PCB-1262 ND 760 ug/Kg 06/19/13 ΑW 3540C/8082 ND 760 06/19/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 82 % 06/19/13 AW 30 - 150 % % TCMX 75 % 06/19/13 30 - 150 %

Page 1 of 48 Ver 1

Units

Client ID: 1

RL/ PQL

Date/Time

By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

Parameter

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Result

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

Page 2 of 48 Ver 1



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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Location Code. Enveragm Necessed by. Sw

Rush Request: 48 Hour Analyzed by: see "By" below

<u>Laboratory Data</u>

SDG ID: GBD93536

Phoenix ID: BD93537

Project ID: CAPEWELL

Client ID: 2

P.O.#:

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 780 ug/Kg 06/19/13 ΑW 3540C/8082 PCB-1221 ND 780 ug/Kg 06/19/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 780 06/19/13 ΑW ug/Kg PCB-1242 ND 780 06/19/13 ΑW 3540C/8082 ug/Kg ND 780 06/19/13 AW 3540C/8082 PCB-1248 ug/Kg ug/Kg 3540C/8082 PCB-1254 ND 780 06/19/13 AW 3540C/8082 PCB-1260 ND 780 ug/Kg 06/19/13 AW PCB-1262 ND 780 ug/Kg 06/19/13 AW 3540C/8082 ND 780 06/19/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 80 % 06/19/13 AW 30 - 150 % % TCMX 81 % 06/19/13 30 - 150 %

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Client ID: 2

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Location Code. Enviranti Neceived by. Sw

Rush Request: 48 Hour Analyzed by: see "By" below

<u>Laboratory Data</u>

SDG ID: GBD93536

Phoenix ID: BD93538

Project ID: CAPEWELL

Client ID: 3

P.O.#:

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 720 ug/Kg 06/19/13 ΑW 3540C/8082 PCB-1221 ND 720 ug/Kg 06/19/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 06/19/13 ΑW 720 ug/Kg PCB-1242 ND 720 06/19/13 ΑW 3540C/8082 ug/Kg ND 720 06/19/13 AW 3540C/8082 PCB-1248 ug/Kg 3100 ug/Kg 3540C/8082 PCB-1254 720 06/19/13 AW 3540C/8082 PCB-1260 ND 720 ug/Kg 06/19/13 AW PCB-1262 ND 720 ug/Kg 06/19/13 AW 3540C/8082 ND 720 06/19/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 92 % 06/19/13 AW 30 - 150 % % TCMX 94 % 06/19/13 30 - 150 %

Page 5 of 48 Ver 1

Client ID: 3

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

**Custody Information** Sample Information Date Time Matrix: SOLID Collected by: 06/15/13 0:00 06/18/13 16:47

Location Code: **ENVPARTN** Received by: SW

Rush Request: 48 Hour Analyzed by: see "By" below

\_aboratory Data

SDG ID: GBD93536

Phoenix ID: BD93539

Project ID: **CAPEWELL** 

Client ID: 4

P.O.#:

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 320 ug/Kg 06/19/13 ΑW 3540C/8082 PCB-1221 ND 320 ug/Kg 06/19/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 06/19/13 ΑW 320 ug/Kg PCB-1242 ND 320 06/19/13 ΑW 3540C/8082 ug/Kg ND 320 06/19/13 AW 3540C/8082 PCB-1248 ug/Kg ug/Kg 3540C/8082 PCB-1254 1100 320 06/19/13 AW 3540C/8082 PCB-1260 ND 320 ug/Kg 06/19/13 AW PCB-1262 ND 320 ug/Kg 06/19/13 AW 3540C/8082 ND 320 06/19/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 87 % 06/19/13 AW 30 - 150 % % TCMX 83 % 06/19/13 30 - 150 %

> Page 7 of 48 Ver 1

Client ID: 4

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

**Custody Information** Sample Information Date Time Matrix: SOLID Collected by: 06/15/13 0:00 06/18/13 16:47

Location Code: **ENVPARTN** Received by: SW

Rush Request: 48 Hour Analyzed by: see "By" below

\_aboratory Data

SDG ID: GBD93536

Phoenix ID: BD93540

Project ID: **CAPEWELL** 

Client ID: 5

P.O.#:

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 330 ug/Kg 06/19/13 ΑW 3540C/8082 PCB-1221 ND 330 ug/Kg 06/19/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 06/19/13 ΑW 330 ug/Kg PCB-1242 ND 330 06/19/13 ΑW 3540C/8082 ug/Kg ND 330 06/19/13 AW 3540C/8082 PCB-1248 ug/Kg 1300 ug/Kg 3540C/8082 PCB-1254 330 06/19/13 AW 3540C/8082 PCB-1260 ND 330 ug/Kg 06/19/13 AW PCB-1262 ND 330 ug/Kg 06/19/13 AW 3540C/8082 ND 330 06/19/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 77 % 06/19/13 AW 30 - 150 % % TCMX 75 % 06/19/13 30 - 150 %

> Page 9 of 48 Ver 1

Client ID: 5

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#:

aboratory Data SDG ID: GBD93536

Phoenix ID: BD93541

Project ID: CAPEWELL

Client ID: 6

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 760 ug/Kg 06/20/13 ΑW 3540C/8082 PCB-1221 ND 760 ug/Kg 06/20/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 760 06/20/13 ΑW ug/Kg PCB-1242 ND 760 06/20/13 ΑW 3540C/8082 ug/Kg ND 760 06/20/13 AW 3540C/8082 PCB-1248 ug/Kg ug/Kg 3540C/8082 PCB-1254 ND 760 06/20/13 AW 760 ug/Kg 3540C/8082 PCB-1260 ND 06/20/13 AW PCB-1262 ND 760 ug/Kg 06/20/13 AW 3540C/8082 ND 760 06/20/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 86 % 06/20/13 AW 30 - 150 % % TCMX 85 % 06/20/13 30 - 150 %

Page 11 of 48 Ver 1

Client ID: 6

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

Page 12 of 48 Ver 1



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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#:

<u>aboratory Data</u> SDG ID: GBD93536
Phoenix ID: BD93542

Project ID: CAPEWELL

Client ID: 7

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 1600 ug/Kg 06/20/13 ΑW 3540C/8082 PCB-1221 ND 1600 ug/Kg 06/20/13 AW 3540C/8082 3540C/8082 ND 06/20/13 ΑW PCB-1232 1600 ug/Kg PCB-1242 ND 1600 06/20/13 ΑW 3540C/8082 ug/Kg ND 1600 06/20/13 AW 3540C/8082 PCB-1248 ug/Kg 17000 ug/Kg 3540C/8082 PCB-1254 1600 06/20/13 AW 3540C/8082 PCB-1260 ND 1600 ug/Kg 06/20/13 AW PCB-1262 ND 1600 ug/Kg 06/20/13 AW 3540C/8082 ND 1600 06/20/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 95 % 06/20/13 AW 30 - 150 % % TCMX 95 % 06/20/13 30 - 150 %

Page 13 of 48 Ver 1

Client ID: 7

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

Page 14 of 48 Ver 1



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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD93536

Phoenix ID: BD93543

Project ID: CAPEWELL

Client ID: 8

RL/ Parameter **PQL** Units Date/Time Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 3600 ug/Kg 06/21/13 ΑW 3540C/8082 PCB-1221 ND 3600 ug/Kg 06/21/13 AW 3540C/8082 3540C/8082 ND 3600 06/21/13 ΑW PCB-1232 ug/Kg PCB-1242 ND 3600 06/21/13 ΑW 3540C/8082 ug/Kg ND 3600 06/21/13 AW 3540C/8082 PCB-1248 ug/Kg 12000 ug/Kg 3540C/8082 PCB-1254 3600 06/21/13 AW ND 06/21/13 3540C/8082 PCB-1260 3600 ug/Kg AW PCB-1262 ND 3600 ug/Kg 06/21/13 AW 3540C/8082 ND 3600 06/21/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP Diluted Out % 06/21/13 AW 30 - 150 % % TCMX Diluted Out % 06/21/13 30 - 150 %

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Client ID: 8

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### **Comments:**

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Phyllis Shiller, Laboratory Director

June 25, 2013

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD93536

Phoenix ID: BD93544

Project ID: CAPEWELL

Client ID: 9

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1221	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1232	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1242	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1248	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1254	17000	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1260	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1262	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
PCB-1268	ND	3800	ug/Kg	06/20/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	06/20/13	AW	30 - 150 %
% TCMX	Diluted Out		%	06/20/13	AW	30 - 150 %

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Client ID: 9

RL/ PQL

Units Date/Time

By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

Parameter

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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Result

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June 25, 2013

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00

Location Code: ENVPARTN Received by: SW

Rush Request: 48 Hour Analyzed by: see "By" below

<u>Laborato</u>

<u>Laboratory Data</u> SDG ID: GBD93536

Phoenix ID: BD93545

16:47

06/18/13

Project ID: CAPEWELL

Client ID: 10

P.O.#:

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1221	ND	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1232	ND	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1242	ND	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1248	ND	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1254	8500	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1260	ND	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1262	ND	780	ug/Kg	06/20/13	AW	3540C/8082
PCB-1268	ND	780	ug/Kg	06/20/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	91		%	06/20/13	AW	30 - 150 %
% TCMX	85		%	06/20/13	AW	30 - 150 %

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Client ID: 10

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#:

<u>aboratory Data</u> SDG ID: GBD93536
Phoenix ID: BD93546

Project ID: CAPEWELL

Client ID: 11

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 810 ug/Kg 06/21/13 ΑW 3540C/8082 PCB-1221 ND 810 ug/Kg 06/21/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 06/21/13 ΑW 810 ug/Kg PCB-1242 ND 810 06/21/13 ΑW 3540C/8082 ug/Kg ND 810 06/21/13 AW 3540C/8082 PCB-1248 ug/Kg 3800 ug/Kg 3540C/8082 PCB-1254 810 06/21/13 AW 06/21/13 3540C/8082 PCB-1260 ND 810 ug/Kg ΑW PCB-1262 ND 810 ug/Kg 06/21/13 ΑW 3540C/8082 ND 06/21/13 ΑW 3540C/8082 PCB-1268 810 ug/Kg **QA/QC Surrogates** % DCBP 123 % 06/21/13 AW 30 - 150 % % TCMX 112 % 06/21/13 30 - 150 %

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Client ID: 11

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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June 25, 2013

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#:

<u>Laboratory Data</u> SDG ID: GBD93536

Phoenix ID: BD93547

Project ID: CAPEWELL

Client ID: 12

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1221	ND	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1232	ND	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1242	ND	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1248	ND	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1254	1900	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1260	ND	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1262	ND	740	ug/Kg	06/20/13	AW	3540C/8082
PCB-1268	ND	740	ug/Kg	06/20/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	103		%	06/20/13	AW	30 - 150 %
% TCMX	95		%	06/20/13	AW	30 - 150 %

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Client ID: 12

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

**Custody Information** Sample Information Date Time Matrix: SOLID Collected by: 06/15/13 0:00 Location Code: **ENVPARTN** Received by: SW 06/18/13 16:47

Rush Request: 48 Hour Analyzed by:

see "By" below P.O.#:

\_aboratory Data

SDG ID: GBD93536

Phoenix ID: BD93548

Project ID: **CAPEWELL** 

Client ID: 13

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 1700 ug/Kg 06/20/13 ΡL 3540C/8082 3540C/8082 PCB-1221 ND 1700 ug/Kg 06/20/13 PL ND 1700 06/20/13 PL3540C/8082 PCB-1232 ug/Kg PCB-1242 ND 1700 06/20/13 PL3540C/8082 ug/Kg ND 1700 06/20/13 ы 3540C/8082 PCB-1248 ug/Kg 8400 ug/Kg 3540C/8082 PCB-1254 1700 06/20/13 PL1700 3540C/8082 PCB-1260 ND ug/Kg 06/20/13 PLPCB-1262 ND 1700 ug/Kg 06/20/13 PL3540C/8082 ND 1700 06/20/13 PL3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 121 % 06/20/13 PL30 - 150 % % TCMX 110 % 06/20/13 30 - 150 %

> Page 25 of 48 Ver 1

Client ID: 13

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#:

Laboratory Data SDG ID: GBD93536
Phoenix ID: BD93549

Project ID: CAPEWELL

Client ID: 14

RL/ Parameter **PQL** Units Date/Time Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 3700 ug/Kg 06/21/13 ΑW 3540C/8082 PCB-1221 ND 3700 ug/Kg 06/21/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 3700 06/21/13 ΑW ug/Kg PCB-1242 ND 3700 06/21/13 ΑW 3540C/8082 ug/Kg ND 3700 06/21/13 AW 3540C/8082 PCB-1248 ug/Kg 14000 ug/Kg 3540C/8082 PCB-1254 3700 06/21/13 AW ND 3700 06/21/13 3540C/8082 PCB-1260 ug/Kg ΑW PCB-1262 ND 3700 ug/Kg 06/21/13 ΑW 3540C/8082 ND 3700 06/21/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP Diluted Out % 06/21/13 AW 30 - 150 % % TCMX Diluted Out % 06/21/13 30 - 150 %

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Client ID: 14

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

Rush Request: 48 Hour Ar

<u>Laboratory Data</u>

SDG ID: GBD93536

Phoenix ID: BD93550

Project ID: CAPEWELL

Client ID: 15

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 720 ug/Kg 06/20/13 ΑW 3540C/8082 PCB-1221 ND 720 ug/Kg 06/20/13 AW 3540C/8082 3540C/8082 ND 06/20/13 ΑW PCB-1232 720 ug/Kg PCB-1242 ND 720 06/20/13 ΑW 3540C/8082 ug/Kg ND 720 06/20/13 AW 3540C/8082 PCB-1248 ug/Kg 5400 ug/Kg 3540C/8082 PCB-1254 720 06/20/13 AW 3540C/8082 PCB-1260 ND 720 ug/Kg 06/20/13 ΑW PCB-1262 ND 720 ug/Kg 06/20/13 ΑW 3540C/8082 ND 720 06/20/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 100 % 06/20/13 AW 30 - 150 % % TCMX 86 % 06/20/13 30 - 150 %

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Client ID: 15

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample Information **Custody Information** Date Time Collected by: Matrix: **SOLID** 06/15/13 0:00 06/18/13 16:47

Received by: Location Code: **ENVPARTN** SW

Analyzed by: see "By" below Rush Request: 48 Hour

**Laboratory Data** 

SDG ID: GBD93536

Phoenix ID: BD93551

**CAPEWELL** Project ID:

Client ID: 16

P.O.#:

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1221	ND	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1232	ND	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1242	ND	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1248	ND	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1254	1900	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1260	ND	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1262	ND	720	ug/Kg	06/20/13	AW	3540C/8082
PCB-1268	ND	720	ug/Kg	06/20/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	103		%	06/20/13	AW	30 - 150 %
% TCMX	86		%	06/20/13	AW	30 - 150 %

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Client ID: 16

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Location Code. Enviranti Neceived by. Sw

Rush Request: 48 Hour Analyzed by: see "By" below

<u>Laboratory Data</u>

SDG ID: GBD93536

Phoenix ID: BD93552

Project ID: CAPEWELL

Client ID: 17

P.O.#:

RL/ Parameter **PQL** Units Date/Time Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 7600 ug/Kg 06/20/13 ΑW 3540C/8082 PCB-1221 ND 7600 ug/Kg 06/20/13 AW 3540C/8082 3540C/8082 ND 7600 06/20/13 ΑW PCB-1232 ug/Kg PCB-1242 ND 7600 06/20/13 ΑW 3540C/8082 ug/Kg ND 7600 06/20/13 AW 3540C/8082 PCB-1248 ug/Kg 31000 ug/Kg 3540C/8082 PCB-1254 7600 06/20/13 AW ND 3540C/8082 PCB-1260 7600 ug/Kg 06/20/13 ΑW PCB-1262 ND 7600 ug/Kg 06/20/13 ΑW 3540C/8082 ND 7600 06/20/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP Diluted Out % 06/20/13 AW 30 - 150 % % TCMX Diluted Out % 06/20/13 30 - 150 %

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Client ID: 17

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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June 25, 2013

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD93536

Phoenix ID: BD93553

Project ID: CAPEWELL

Client ID: 18

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1221	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1232	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1242	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1248	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1254	26000	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1260	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1262	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
PCB-1268	ND	7600	ug/Kg	06/21/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	06/21/13	AW	30 - 150 %
% TCMX	Diluted Out		%	06/21/13	AW	30 - 150 %

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Client ID: 18

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

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June 25, 2013

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample Information **Custody Information** Date Time Collected by: Matrix: **SOLID** 06/15/13 0:00 06/18/13 16:47

Received by: Location Code: **ENVPARTN** SW

Rush Request: 48 Hour Analyzed by: see "By" below

**Laboratory Data** 

SDG ID: GBD93536

Phoenix ID: BD93554

**CAPEWELL** Project ID:

Client ID: 19

P.O.#:

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1221	ND	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1232	ND	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1242	ND	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1248	ND	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1254	2400	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1260	ND	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1262	ND	770	ug/Kg	06/20/13	AW	3540C/8082
PCB-1268	ND	770	ug/Kg	06/20/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	102		%	06/20/13	AW	30 - 150 %
% TCMX	100		%	06/20/13	AW	30 - 150 %

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Client ID: 19

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

**Custody Information** Sample Information Date Time Matrix: SOLID Collected by: 06/15/13 0:00 06/18/13 16:47

**ENVPARTN** Received by: Location Code: SW

Rush Request: 48 Hour Analyzed by: see "By" below

\_aboratory Data

SDG ID: GBD93536

Phoenix ID: BD93555

Project ID: **CAPEWELL** 

Client ID: 20

P.O.#:

RL/ Parameter **PQL** Units Date/Time Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 7900 ug/Kg 06/20/13 ΑW 3540C/8082 PCB-1221 ND 7900 ug/Kg 06/20/13 AW 3540C/8082 3540C/8082 ND 7900 06/20/13 ΑW PCB-1232 ug/Kg PCB-1242 ND 7900 06/20/13 ΑW 3540C/8082 ug/Kg ND 7900 06/20/13 AW 3540C/8082 PCB-1248 ug/Kg 52000 ug/Kg 3540C/8082 PCB-1254 7900 06/20/13 AW ND 3540C/8082 PCB-1260 7900 ug/Kg 06/20/13 ΑW PCB-1262 ND 7900 ug/Kg 06/20/13 ΑW 3540C/8082 ND 7900 06/20/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP Diluted Out % 06/20/13 AW 30 - 150 % % TCMX Diluted Out % 06/20/13 30 - 150 %

> Page 39 of 48 Ver 1

Client ID: 20

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

**Custody Information** Sample Information Date Time Matrix: SOLID Collected by: 06/15/13 0:00 Received by: 06/18/13 16:47

Location Code: **ENVPARTN** SW

Rush Request: 48 Hour Analyzed by: see "By" below

\_aboratory Data

62

SDG ID: GBD93536

30 - 150 %

Phoenix ID: BD93556

Project ID: **CAPEWELL** 

Client ID: 21

P.O.#:

% TCMX

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 800 ug/Kg 06/20/13 ΑW 3540C/8082 PCB-1221 ND 800 ug/Kg 06/20/13 AW 3540C/8082 3540C/8082 ND 800 06/20/13 ΑW PCB-1232 ug/Kg PCB-1242 ND 800 06/20/13 ΑW 3540C/8082 ug/Kg ND 800 06/20/13 AW 3540C/8082 PCB-1248 ug/Kg ug/Kg 3540C/8082 PCB-1254 1100 800 06/20/13 AW ug/Kg 3540C/8082 PCB-1260 ND 800 06/20/13 ΑW PCB-1262 ND 800 ug/Kg 06/20/13 ΑW 3540C/8082 ND 800 06/20/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 92 % 06/20/13 AW 30 - 150 %

%

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06/20/13

Client ID: 21

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample InformationCustody InformationDateTimeMatrix:SOLIDCollected by:06/15/130:00Location Code:ENVPARTNReceived by:SW06/18/1316:47

Rush Request: 48 Hour Analyzed by: see "By" below

P.O.#: Laboratory Data

SDG ID: GBD93536

Phoenix ID: BD93557

Project ID: CAPEWELL

Client ID: 22

RL/ **PQL** Units Date/Time Parameter Result Βv Reference Percent Solid 100 % 06/19/13 LB E160.3 1 Extraction for PCB Completed 06/18/13 NP/HB SW3540C PCB (Soxhlet) PCB-1016 ND 2900 ug/Kg 06/21/13 ΑW 3540C/8082 PCB-1221 ND 2900 ug/Kg 06/21/13 AW 3540C/8082 3540C/8082 PCB-1232 ND 2900 06/21/13 ΑW ug/Kg PCB-1242 ND 2900 06/21/13 ΑW 3540C/8082 ug/Kg ND 2900 06/21/13 AW 3540C/8082 PCB-1248 ug/Kg 13000 ug/Kg 3540C/8082 PCB-1254 2900 06/21/13 AW 06/21/13 3540C/8082 PCB-1260 ND 2900 ug/Kg ΑW PCB-1262 ND 2900 ug/Kg 06/21/13 ΑW 3540C/8082 ND 2900 06/21/13 ΑW 3540C/8082 PCB-1268 ug/Kg **QA/QC Surrogates** % DCBP 113 % 06/21/13 AW 30 - 150 % % TCMX 90 % 06/21/13 30 - 150 %

Page 43 of 48 Ver 1

Client ID: 22

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample Information **Custody Information** Date Time Collected by: Matrix: **SOLID** 06/15/13 0:00 06/18/13 16:47

Received by: Location Code: **ENVPARTN** SW

Analyzed by: see "By" below Rush Request: 48 Hour

**CAPEWELL** 

Client ID: 23

Project ID:

P.O.#:

**Laboratory Data** SDG ID: GBD93536 Phoenix ID: BD93558

\_. ,

		RL/				
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1221	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1232	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1242	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1248	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1254	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1260	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1262	ND	710	ug/Kg	06/19/13	AW	3540C/8082
PCB-1268	ND	710	ug/Kg	06/19/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	84		%	06/19/13	AW	30 - 150 %
% TCMX	81		%	06/19/13	AW	30 - 150 %

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Client ID: 23

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

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**Analysis Report** 

June 25, 2013

FOR: Attn: Mr. Paul Muniz

Environmental Partners, LLC

12 Fourth Avenue Branford, CT 06405

Sample Information **Custody Information** Date Time Collected by: Matrix: **SOLID** 06/15/13 0:00 Received by: Location Code: **ENVPARTN** SW 06/18/13 16:47

see "By" below Rush Request: 48 Hour Analyzed by:

**Laboratory Data** 

SDG ID: GBD93536

Phoenix ID: BD93559

**CAPEWELL** Project ID:

Client ID: 24

P.O.#:

_		RL/			_	
Parameter	Result	PQL	Units	Date/Time	Ву	Reference
Percent Solid	100	1	%	06/19/13	LB	E160.3
Extraction for PCB	Completed			06/18/13	NP/HB	SW3540C
PCB (Soxhlet)						
PCB-1016	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1221	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1232	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1242	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1248	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1254	19000	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1260	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1262	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
PCB-1268	ND	3600	ug/Kg	06/19/13	AW	3540C/8082
QA/QC Surrogates						
% DCBP	Diluted Out		%	06/19/13	AW	30 - 150 %
% TCMX	Diluted Out		%	06/19/13	AW	30 - 150 %

Page 47 of 48 Ver 1

Client ID: 24

RL/

Parameter Result PQL Units Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

#### **Comments:**

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

June 25, 2013

Reviewed and Released by: Rashmi Makol, Project Manager

Page 48 of 48 Ver 1



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

# QA/QC Report

June 25, 2013

# QA/QC Data

% LCS LCSD LCS MS MSD MS Rec **RPD** Blank % **RPD RPD** Limits Limits % Parameter % % QA/QC Batch 236125, QC Sample No: BD93089 (BD93536, BD93537, BD93538, BD93539, BD93540) Polychlorinated Biphenyls - Solid PCB-1016 79 69 13.5 70 40 - 140 30 PCB-1221 ND 40 - 140 30 ND PCB-1232 40 - 140 30 PCB-1242 ND 40 - 140 30 PCB-1248 ND 30 40 - 140 ND PCB-1254 40 - 140 30 9.3 PCB-1260 ND 90 82 80 40 - 140 30 PCB-1262 ND 40 - 140 30 ND PCB-1268 40 - 140 30 % DCBP (Surrogate Rec) 73 81 69 16.0 68 30 - 150 30 84 89 78 % TCMX (Surrogate Rec) 13.2 80 30 - 150 30 QA/QC Batch 236136, QC Sample No: BD93541 (BD93541, BD93542, BD93543, BD93544, BD93545, BD93546, BD93547, BD93548, BD93549, BD93550, BD93551, BD93552, BD93553, BD93554, BD93555, BD93556, BD93557, BD93558, BD93559) Polychlorinated Biphenyls - Solid PCB-1016 72 85 16.6 40 - 140 30 PCB-1221 ND 40 - 140 30 ND PCB-1232 40 - 140 30 PCB-1242 ND 40 - 140 30 PCB-1248 ND 40 - 140 30 PCB-1254 ND 40 - 140 30 PCB-1260 ND 80 90 11.8 40 - 140 30 PCB-1262 ND 40 - 140 30 PCB-1268 ND 40 - 140 30 % DCBP (Surrogate Rec) 82 85 91 6.8 30 - 150 30

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

81

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

**RPD** - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

% TCMX (Surrogate Rec)

Comment:

MS Dup - Matrix Spike Duplicate

NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director

SDG I.D.: GBD93536

30 - 150

30

June 25, 2013

74

90

19.5

Tuesday, June 25, 2013

Requested Criteria: None

Sample Criteria Exceedences Report GBD93536 - ENVPARTN

dences Report

State: CT

RL Analysis
SampNo Acode Phoenix Analyte Criteria Result RL Criteria Units

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Page 1 of 1

<sup>\*\*\*</sup> No Data to Display \*\*\*

# Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Phoenix Environmental Labs, Inc. Client: **ENVPARTN** Project Location: CAPEWELL **Project Number:** Laboratory Sample ID(s): BD93536, BD93537, BD93538, BD93539, BD93540, BD93541, BD93542, BD93543, BD93544, BD93545, BD93546, BD93547, BD93548, BD93549, BD93550, BD93551, BD93552, BD93553, BD93554, BD93555, BD93556, BD93557, BD93558, BD93559 **Sampling Date(s):** 6/15/2013 **RCP Methods Used:** ☐ 1311/1312
☐ 6010 7000 7196 7470/7471 8081 ☐ EPH TO15 **✓** 8082 8270 9010/9012 □ VPH 8151 8260 ETPH For each analytical method referenced in this laboratory report package, were all ✓ Yes □ No specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP methodspecific Reasonable Confidence Protocol documents? Were the method specified preservation and holding time requirements met? ✓ Yes □ No EPH and VPH methods only: Was the VPH or EPH method conducted without 1b. ☐ Yes ☐ No **✓** NA significant modifications (see section 11.3 of respective RCP methods) 2. Were all samples received by the laboratory in a condition consistent with that ✓ Yes No. described on the associated Chain-of-Custody document(s)? Were samples received at an appropriate temperature (< 6 Degrees C)? 3. ☐ Yes ✓ No □ NA Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol 4. ✓ Yes □ No documents achieved? Were reporting limits specified or referenced on the chain-of-custody? 5a. ✓ Yes No. Were these reporting limits met? 5b. ✓ Yes □ No □ NA For each analytical method referenced in this laboratory report package, were results 6. ✓ Yes No □ NA reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents? Are project-specific matrix spikes and laboratory duplicates included in the data set? 7. ✓ Yes □ No □ NA Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowlegde and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. Date: Tuesday, June 25, 2013 Authorized makal Printed Name: Rashmi Makol Signature:

Position: Project Manager



#### **Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



## **RCP Certification Report**

June 25, 2013

**SDG I.D.: GBD93536** 

#### **PCB Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

**Instrument:** Au-ecd1 06/19/13-1 (BD93536, BD93537, BD93538, BD93539, BD93540,

BD93558, BD93559)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

Printed Name Adam Werner Position: Chemist Date: 6/19/2013

**Instrument:** Au-ecd3 06/20/13-1 (BD93550, BD93551, BD93556)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

Printed Name Adam Werner Position: Chemist Date: 6/20/2013

**Instrument:** Au-ecd5 06/20/13-1 (BD93542, BD93547, BD93551)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

Printed Name Adam Werner Position: Chemist Date: 6/20/2013

**Instrument:** Au-ecd5 06/21/13-1 (BD93546, BD93553)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none



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## **RCP Certification Report**

June 25, 2013

**SDG I.D.: GBD93536** 

Printed Name Adam Werner Position: Chemist Date: 6/21/2013

**Instrument:** Au-ecd6 06/20/13-1 (BD93545, BD93554)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

Printed Name Adam Werner Position: Chemist Date: 6/20/2013

**Instrument:** Au-ecd8 06/20/13-1 (BD93541, BD93544, BD93548, BD93552, BD93555)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

Printed Name Adam Werner Position: Chemist Date: 6/20/2013

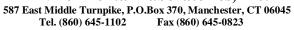
**QC** Batch 236136 06/18/13 (BD93541, BD93542, BD93543, BD93544, BD93545,

BD93546, BD93547, BD93548, BD93549, BD93550, BD93551, BD93552, BD93553, BD93554, BD93555, BD93556, BD93557, BD93558, BD93559)

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.



#### **Environmental Laboratories, Inc.**





# **RCP Certification Report**

June 25, 2013

**SDG I.D.: GBD93536** 

QC (Site Specific)	
Sample No: BD93541, QA/QC Batch: 236136	
All LCS recoveries were within 40 - 140 with the following exceptions: None.	
All LCSD recoveries were within 40 - 140 with the following exceptions: None.	
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.	
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within cr	riteria.
QC (Batch Specific)	
Sample No: BD93089, QA/QC Batch: 236125	
All LCS recoveries were within 40 - 140 with the following exceptions: None.	
All LCSD recoveries were within 40 - 140 with the following exceptions: None.	
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.	

#### **Temperature Narration**

The samples were received at 24C with cooling initiated. (Note acceptance criteria is above freezing up to  $6^{\circ}$ C)

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Temp Pg of $\delta$	Data Delivery:	Email promovize CTI ep. com	86588008	14600 203	1000   111   1000   111   1100   111   1100   111   11	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	* * * * * * * * * * * * * * * * * * *											Data Format Excel	GIS/Key  EQUIS  Other		NJ Hazsite EDD Phoenix Std Report Other
17 }		<b>X</b>	Project P.O: Phone #: Fax #:		S. Ta	BURN ON							-	+				MCP Cert. GW-1	GW-2 GW-3 S-1	S-2 S-3 MWRA eSMART Other	
Notice	_					120	7/05	-	-								>	<u>≨</u>  □□			llected:
		Fax (860) 645-0823 <b>645-8726</b>					V											CT/RI RCP Cert. GW Protect.	GB Mobility SW Protect.	Res. Vol. Ind. Vol. Res. Criteria	State where samples were collected:
TODY REC	3ox 370, Manches	com Fax (860) 646 (860) 645-8726	MP11		Sol -													Turnaround:  1 Day*	3 Days*	* SURCHARGE	
CHAIN OF CUSTODY RECORD	587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040	Email: service@phoenixlabs.com Client Services (860)	Project: CONCINE!! Report to: DOW! MUNIZE	S		POR		\ <del>/</del> >	<b>X</b>	*	×.	<del>-</del> 4.	1	**	\ \ \	×	X	Time:		्र	
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			mers, U.S.	I .	Date	₽	Sampled S	200	lolis	(0/15	5/0	Silo	2107	20	V. 9	(s	Silo	Accepted by Allice (		1	3
		es, Inc.	- 1-20x-	n - Identificat		A=air	Matrix		0	0	0	0	00	20		0	0	anad		isuo .	ָה בי
		Environmental Laboratories, Inc.	DVIYONINACOHO 10 Broodwou 10177 Haven	Client Sample - Information - Identification	1 1	SL=sludge A=	Identification	- (~	3	1	5	ا و	r 0	90	01	[-	<u>ල</u>	arby CP	,	Comments, Special Requirements or Regulations	1 CMC 1 CM 1 1 CM 1 CM 1 CM 1 CM 1 CM 1
	DHA	Environme	Customer: CD		Signature	GW=groundwater	Sample #	CESE 6	32528	935391	23590	49241	9.554	9 25 44	93545	975E P	125747	Sade Direction of the same of		Comments, Special F	(CO)11

	<u>\$</u>	<u> </u>	, ,					<del></del>	.,												<del></del>
7 Temp Pg 2 of S	muniz@ctlep	SUD 8833311		14000 14 20 00 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Aloga Aloga	00 00 00 00 00 00 00 00 00 00 00 00 00													GIS/Key	S-2 S-3 Data Package MWRA eSMART SAP-A NI Package	Ny Hazsite EDD  Phoenix Std Report
34.76	<u>.</u> -	Project P.O: Phone #:	Fax#:		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	100 105 10 105 105 105 105 105 105 105 1											<del>&gt;</del>	<b>≨</b> □□	0 0 W. 2		collected:
Y RECORD	, Manchester, CT 06040 Fax (860) 645-0823 645-8726	3	WINE SO															Turnaround: CT/RI 1 Day*	3 Days* GA Mobility Standard GB Mobility	Cther Res. Vol.	
CHAIN OF CUSTODY RECORD	587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040 Email: service@phoenixlabs.com	Capeur II	to: 100000	is st		DIA.	<b>1</b>	X >	\ \ \	-X	*	×	<b>X</b>	×	<b>X</b>		×	TIME: Turn			•
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	ories, Inc.	tal Partners Li	nation - Identification	Date	S=soll/solid O=other A=air	Sample Date Matrix Sampled S	SIM O		200	SIN ()	S100	SID ()	Silai		<u>ହାର</u> ଠ	<u>ହ</u> ା୬ ଠ	SI 2)	Manach &		ulations:	MUST MOVE 1.0 MIG/Kg derection 1.
	FHOKINI Environmental Laboratories, Inc.	Customer: ENVIYONMEN Address: ALD BINGLOU	Client Sample - Information - Identification	.	ter WW≖wastewater er SL≕sludge	Customer Sample Identification	5	<u>1</u> 1	2 9	7 17	3 18	6	30	9	7 23	8 23	1 au	Relinquished by:	<u>ר</u>	Comments, Special Requirements or Regulations.	MONVE 1.1
	Faritonm	Customer: ED	4	Sampler's Signature	Matrix Code: DW∺drinking water GW∺groundwater	Phoenix Sample #	325 US	2002	9355	9356;	63883	93554	2255	4858	9359	93558	93559	Relingu	,	Comments, Speci	

# Appendix C Included on Attached CD



80 Lupes Drive Stratford, CT 06615 Tel: (203) 377-9984 Fax: (203) 377-9952 e-mail: cet1@cetlabs.com

Client:

Mr. Paul Muniz

Environmental Partners LLC

26 Broadway

North Haven, CT 06473

# **Analytical Report**

**CET # 13070123** 

Report Date: July 11, 2013



Project: 75 Charter Oak Ave, Hartford

### **SAMPLE SUMMARY:**

This report contains analytical data associated with the following samples only:

CETID	Client Sample ID	Matrix	Collection Date	Collection Time	Receipt Date
AF37478	C-D16.5 1in	Solid	7/3/2013	9:30	07/05/2013
AF37479	C-D16.5 2in	Solid	7/3/2013	9:35	07/05/2013
AF37480	C-H30 1in	Solid	7/3/2013	9:40	07/05/2013
AF37481	C-H30 2in	Solid	7/3/2013	9:45	07/05/2013
AF37482	C-C25.5 1in	Solid	7/3/2013	9:50	07/05/2013
AF37483	C-C25.5 2in	Solid	7/3/2013	9:55	07/05/2013
AF37484	I3 1in	Solid	7/3/2013	10:00	07/05/2013
AF37485	I3 2in	Solid	7/3/2013	10:05	07/05/2013
AF37486	J8 1in	Solid	7/3/2013	10:10	07/05/2013
AF37487	J8 2in	Solid	7/3/2013	10:15	07/05/2013
AF37488	I16 1in	Solid	7/3/2013	10:20	07/05/2013
AF37489	I16 2in	Solid	7/3/2013	10:25	07/05/2013
AF37490	J24 1in	Solid	7/3/2013	10:30	07/05/2013
AF37491	J24 2in	Solid	7/3/2013	10:35	07/05/2013
AF37492	I32 1in	Solid	7/3/2013	10:40	07/05/2013
AF37493	I32 2in	Solid	7/3/2013	10:45	07/05/2013
AF37494	D5 1in	Solid	7/3/2013	10:50	07/05/2013
AF37495	O5 1in	Solid	7/3/2013	10:55	07/05/2013
AF37496	D16.5 1in	Solid	7/3/2013	11:00	07/05/2013
AF37497	O16.5 1in	Solid	7/3/2013	11:05	07/05/2013
AF37498	R24.5 1in	Solid	7/3/2013	11:10	07/05/2013
AF37499	B30 1in	Solid	7/3/2013	11:15	07/05/2013
AF37500	G29 1in	Solid	7/3/2013	11:20	07/05/2013
AF37501	Pipe 1	Paint	7/3/2013	11:25	07/05/2013
AF37502	Pipe 2	Paint	7/3/2013	11:30	07/05/2013
AF37503	Pipe 3	Paint	7/3/2013	11:35	07/05/2013
AF37504	Pipe 4	Paint	7/3/2013	11:40	07/05/2013
AF37505	Pipe 5	Paint	7/3/2013	11:45	07/05/2013
AF37506	Pipe 6	Paint	7/3/2013	11:50	07/05/2013
AF37507	Pipe 7	Paint	7/3/2013	11:55	07/05/2013
AF37508	Pipe 8	Paint	7/3/2013	12:00	07/05/2013
AF37509	Pipe 9	Paint	7/3/2013	12:05	07/05/2013

Sample temperature upon receipt was 5.0 degrees C

## **PREP ANALYSIS:**

Soxhlet Extraction [EPA 3540C]

Client ID	C-D16.5 1in	C-D16.5 2in	C-H30 1in	C-H30 2in	C-C25.5 1in
CET ID	AF37478	AF37479	AF37480	AF37481	AF37482
Date Analyzed	7/8/2013	7/8/2013	7/8/2013	7/8/2013	7/8/2013

Soxhlet Extraction [EPA 3540C]

Client ID	C-C25.5 2in	I3 1in	I3 2in	J8 1in	I8 2in
CET ID	AF37483	AF37484	AF37485	AF37486	AF37487
Date Analyzed	7/8/2013	7/8/2013	7/8/2013	7/8/2013	7/8/2013

Project: 75 Charter Oak Ave, Hartford

Soxhlet Extraction [EPA 3540C]

Client ID	I16 1in	I16 2in	J24 1in	J24 2in	I32 1in
CET ID	AF37488	AF37489	AF37490	AF37491	AF37492
Date Analyzed	7/8/2013	7/8/2013	7/8/2013	7/8/2013	7/8/2013

Soxhlet Extraction [EPA 3540C]

Client ID	I32 2in	D5 1in	O5 1in	D16.5 1in	O16.5 1in
CET ID	AF37493	AF37494	AF37495	AF37496	AF37497
Date Analyzed	7/8/2013	7/8/2013	7/8/2013	7/8/2013	7/8/2013

Soxhlet Extraction [EPA 3540C]

Client ID	R24.5 1in	B30 1in	G29 1in	Pipe 1	Pipe 2
CET ID	AF37498	AF37499	AF37500	AF37501	AF37502
Date Analyzed	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/9/2013

Soxhlet Extraction [EPA 3540C]

Client ID	Pipe 3	Pipe 4	Pipe 5	Pipe 6	Pipe 7
CET ID	AF37503	AF37504	AF37505	AF37506	AF37507
Date Analyzed	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/9/2013

Soxhlet Extraction [EPA 3540C]

L	Client ID	Pipe 8	Pipe 9
I	CET ID	AF37508	AF37509
L	Date Analyzed	7/9/2013	7/9/2013

## **ANALYSIS:**

Total Solids [EPA 160.3 mo] Units: percent

Client ID	C-D16.5 1in	C-D16.5 2in	C-H30 1in	C-H30 2in	C-C25.5 1in
CET ID Date Analyzed Total Solids	AF37478	AF37479	AF37480	AF37481	AF37482
	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
	82	64	95	95	96

Total Solids [EPA 160.3 mo] Units: percent

Client ID	C-C25.5 2in	I3 1in	I3 2in	J8 1in	[8 2in
CET ID  Date Analyzed  Total Solids	AF37483	AF37484	AF37485	AF37486	AF37487
	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
	88	98	97	93	100

Project: 75 Charter Oak Ave, Hartford

Total Solids [EPA 160.3 mo] Units: percent

Client ID	I16 1in	I16 2in	J24 1in	J24 2in	I32 1in
CET ID	AF37488	AF37489	AF37490	AF37491	AF37492
Date Analyzed	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Total Solids	94	94	95	96	96

Total Solids [EPA 160.3 mo] Units: percent

		- J PO.			
Client ID	T ID AF37493	D5 1in	O5 1in	D16.5 1in	O16.5 1in
CET ID	AF37493	AF37494	AF37495	AF37496	AF37497
Date Analyzed	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Total Solids	95	98	83	97	97

Total Solids [EPA 160.3 mo] Units: percent

Client ID	R24.5 1in	B30 1in	G29 1in
CET ID	AF37498	AF37499	AF37500
Date Analyzed	7/10/2013	7/10/2013	7/10/2013
Total Solids	97	97	78

EPA 8082 PCBs [EPA 8082A] Units: mg/kg (Dry Wt)

Client ID	C-D16.5 1in	C-D16.5 2in	C-H30 1in	C-H30 2in	C-C25.5 1in
CET ID	AF37478	AF37479	AF37480	AF37481	AF37482
Date Analyzed	7/9/2013	7/9/2013	7/9/2013	7/10/2013	7/9/2013
Dilution	1.0	1.0	1.0	1.0	1.0
PCB-1016	ND < 0.31	ND < 0.40	ND < 0.27	ND < 0.27	ND < 0.27
PCB-1221	ND < 0.31	ND < 0.40	ND < 0.27	ND < 0.27	ND < 0.27
PCB-1232	ND < 0.31	ND < 0.40	ND < 0.27	ND < 0.27	ND < 0.27
PCB-1242	ND < 0.31	ND < 0.40	ND < 0.27	ND < 0.27	ND < 0.27
PCB-1248	ND < 0.31	ND < 0.40	ND < 0.27	ND < 0.27	ND < 0.27
PCB-1254	ND < 0.31	2.0	ND < 0.27	ND < 0.27	ND < 0.27
PCB-1260	ND < 0.31	ND < 0.40	ND < 0.27	ND < 0.27	ND < 0.27
PCB-1268	ND < 0.31	ND < 0.40	ND < 0.27	ND < 0.27	ND < 0.27
TCMX (Surr 1) 50-150	76	67	59	70	69
DCB (Surr 2) 50-150	95	85	79	75	78

Project: 75 Charter Oak Ave, Hartford

EPA 8082 PCBs [EPA 8082A] Units: mg/kg (Dry Wt)

Client ID	C-C25.5 2in	I3 1in	I3 2in	T8 1in	J8 2in
CET ID	AF37483	AF37484	AF37485	AF37486	AF37487
Date Analyzed	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/9/2013
Dilution	1.0	1.0	1.0	1.0	1.0
PCB-1016	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
PCB-1221	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
PCB-1232	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
PCB-1242	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
PCB-1248	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
PCB-1254	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
PCB-1260	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
PCB-1268	ND < 0.29	ND < 0.26	ND < 0.26	ND < 0.27	ND < 0.25
TCMX (Surr 1) 50-150	.67	81	72	80	69
DCB (Surr 2) 50-150	81	70	74	83	75

EPA 8082 PCBs [EPA 8082A] Units: mg/kg (Dry Wt)

	,	I16 2in	(21) (10)		
Client ID	110 1111		J24 1in	J24 2in	I32 1in
CET ID	AF37488	AF37489	AF37490	AF37491	AF37492
Date Analyzed	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/9/2013
Dilution	1.0	1.0	1.0	1.0	1.0
PCB-1016	ND < 0.27				
PCB-1221	ND < 0.27				
PCB-1232	ND < 0.27				
PCB-1242	ND < 0.27				
PCB-1248	ND < 0.27				
PCB-1254	ND < 0.27				
PCB-1260	ND < 0.27				
PCB-1268	ND < 0.27				
TCMX (Surr 1) 50-150	80	73	74	76	69
DCB (Surr 2) 50-150	83	69	78	74	72

EPA 8082 PCBs [EPA 8082A] Units: mg/kg (Dry Wt)

	H 0002A U	iits. iiig/ kg	(Diy wt)		
Client ID	I32 2in	D5 1in	O5 1in	D16.5 1in	O16.5 1in
CET ID	AF37493	AF37494	AF37495	AF37496	AF37497
Date Analyzed	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/9/2013
Dilution	1.0	1.0	1.0	1.0	1.0
PCB-1016	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
PCB-1221	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
PCB-1232	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
PCB-1242	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
PCB-1248	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
PCB-1254	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
PCB-1260	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
PCB-1268	ND < 0.27	ND < 0.26	ND < 0.31	ND < 0.26	ND < 0.26
TCMX (Surr 1) 50-150	75	90	66	79	78
DCB (Surr 2) 50-150	79	68	78	81	72

Project: 75 Charter Oak Ave, Hartford

EPA 8082 PCBs [EPA 8082A] Units: mg/kg (Dry Wt)

		0.0			
Client ID	R24.5 1in	B30 1in	G29 1in	Pipe 1	Pipe 2
CET ID	AF37498	AF37499	AF37500	AF37501	AF37502
Date Analyzed	7/10/2013	7/10/2013	7/10/2013	7/11/2013	7/11/2013
Dilution	1.0	1.0	1.0	1.0	1.0
PCB-1016	ND < 0.26	ND < 0.26	ND < 0.33	ND < 0.25	ND < 0.25
PCB-1221	ND < 0.26	ND < 0.26	ND < 0.33	ND < 0.25	ND < 0.25
PCB-1232	ND < 0.26	ND < 0.26	ND < 0.33	ND < 0.25	ND < 0.25
PCB-1242	ND < 0.26	ND < 0.26	ND < 0.33	ND < 0.25	ND < 0.25
PCB-1248	ND < 0.26	ND < 0.26	ND < 0.33	0.64	0.62
PCB-1254	ND < 0.26	ND < 0.26	ND < 0.33	0.75	1.2
PCB-1260	ND < 0.26	ND < 0.26	ND < 0.33	ND < 0.25	ND < 0.25
PCB-1268	ND < 0.26	ND < 0.26	ND < 0.33	ND < 0.25	ND < 0.25
TCMX (Surr 1) 50-150	76	63	68	17 L	42 L
DCB (Surr 2) 50-150	66	65	59	16 L	48 L

EPA 8082 PCBs [EPA 8082A] Units: mg/kg (Dry Wt)

		5/18	(		
Client ID	Pipe 3	Pipe 4	Pipe 5	Pipe 6	Pipe 7
CET ID	AF37503	AF37504	AF37505	AF37506	AF37507
Date Analyzed	7/11/2013	7/11/2013	7/11/2013	7/11/2013	7/11/2013
Dilution	1.0	1.0	20	1.0	1.0
PCB-1016	ND < 0.25	ND < 0.25	ND < 5.0	ND < 0.25	ND < 0.25
PCB-1221	ND < 0.25	ND < 0.25	ND < 5.0	ND < 0.25	ND < 0.25
PCB-1232	ND < 0.25	ND < 0.25	ND < 5.0	ND < 0.25	ND < 0.25
PCB-1242	ND < 0.25	ND < 0.25	ND < 5.0	ND < 0.25	ND < 0.25
PCB-1248	0.87	ND < 0.25	ND < 5.0	0.56	0.72
PCB-1254	0.45	0.43	13	1.6	1.1
PCB-1260	ND < 0.25	ND < 0.25	ND < 5.0	ND < 0.25	ND < 0.25
PCB-1268	ND < 0.25	ND < 0.25	ND < 5.0	ND < 0.25	ND < 0.25
TCMX (Surr 1) 50-150	19 L	16 L	+	40 L	57
DCB (Surr 2) 50-150	19 L	20 L	+	43 L	59
+Surrogate diluted out				L	

<sup>+</sup>Surrogate diluted out

EPA 8082 PCBs [EPA 8082A] Units: mg/kg (Dry Wt)

Client ID	Pipe 8	Pipe 9
CET ID	AF37508	AF37509
Date Analyzed	7/11/2013	7/11/2013
Dilution	1.0	1.0
PCB-1016	ND < 0.25	ND < 0.25
PCB-1221	ND < 0.25	ND < 0.25
PCB-1232	ND < 0.25	ND < 0.25
PCB-1242	ND < 0.25	ND < 0.25
PCB-1248	ND < 0.25	ND < 0.25
PCB-1254	1.3	0.58
PCB-1260	ND < 0.25	ND < 0.25
PCB-1268	ND < 0.25	ND < 0.25
TCMX (Surr 1) 50-150	48 L	34 L
DCB (Surr 2) 50-150	61	43 L

Page 7 of 11

July 11, 2013

CET#: 13070123

Project: 75 Charter Oak Ave, Hartford

Questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

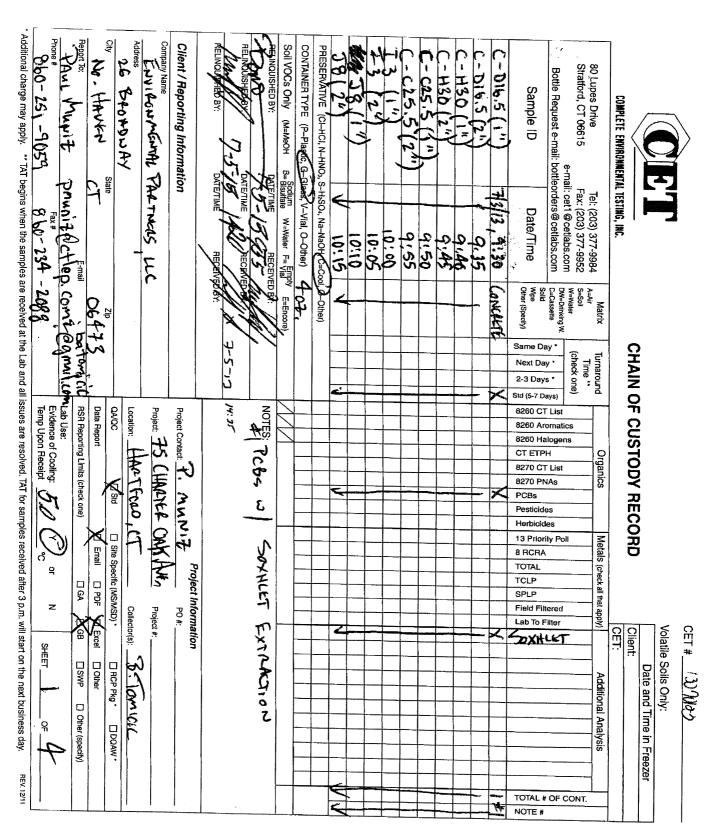
Sincerely,

David Ditta

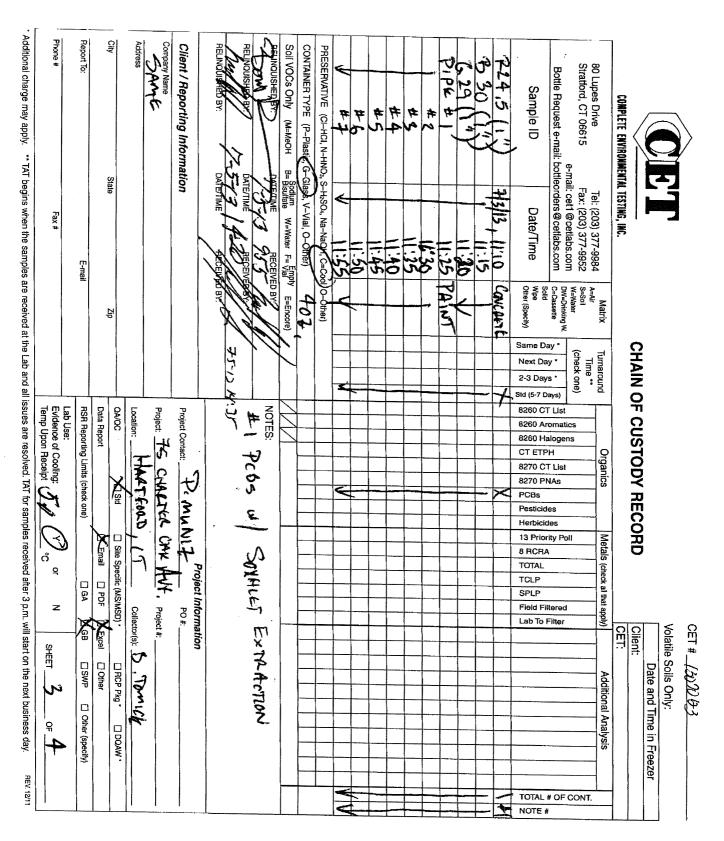
Laboratory Director

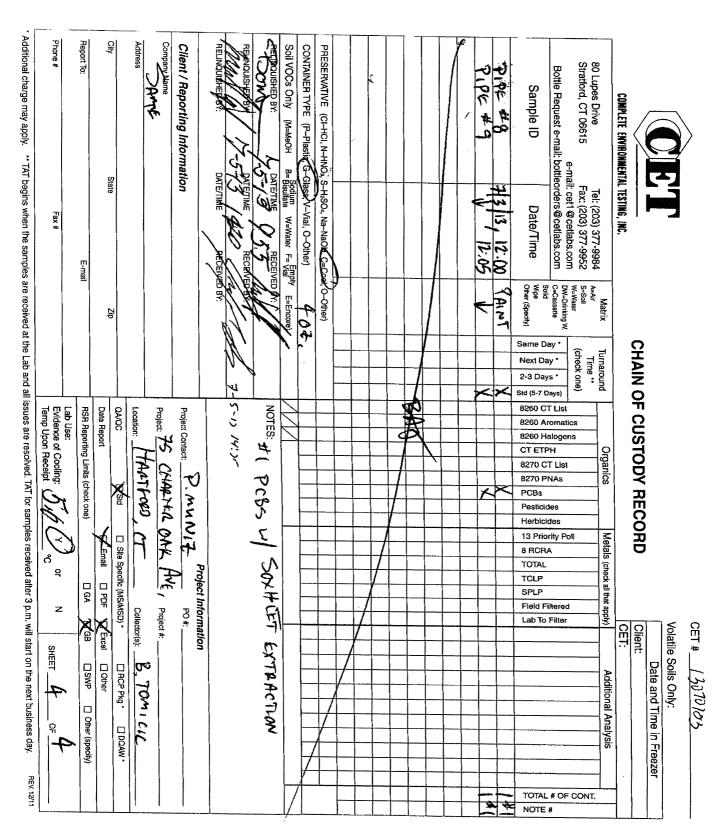
#### Report Comments:

- 1. ND is None Detected at the specified detection limit.
- 2. All analyses were performed in house unless a Reference Laboratory is listed.
- 3. Samples will be disposed of 30 days after the report date.
- 4. Sample Result Flags:
  - E The result is estimated, above the calibration range.
  - H The surrogate recovery is above the control limits.
  - L The surrogate recovery is below the control limits.
  - B The compound was detected in the laboratory blank.
  - P The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
  - D The RPD between the sample and the sample duplicate is high. Sample homogeneity may be a problem.
- 5. All results met standard operating procedures unless indicated by a data qualifier next to a sample result, or a narration in the QC report.



CHAIN OF CUSTODY RECORD  CHAIN OF CUSTODY RECORD  CHAIN OF CUSTODY RECORD  CHAIN  Immanuel  Imma	CHAIN OF CUSTODY RECORD  CHAIN OF CUSTODY Record Re		Report To:	City		Address	Company, Name	Client / Reporting Information	RELINGUISAED BY: DATEM	RELINGUISH DATE!		Soil VOCs Only (M=MacH B= Sodium	PRESERVATIVE (CHIDI, N-HIO), S-H-SO, Na-NaOHG-		DI6,5 (1"	05 \ 1") \	05 (Tw)	下3.2 (1)	T32   "	724 (24)	J24 (\")	; ; ;	工16(1) 73	Sample ID	e-mail: cet l @cettabs.com Bottle Request e-mail: bottleorders@cetlabs.com	Stratford, CT 06615 Fax		COMPLETE ENVIRONMENTAL TESTING, INC.			
CHAIN OF CUSTODY RECORD  CHAIN OF CUSTODY RECO	CHAIN OF CUSTODY RECORD  Date and Time in Freezer  Chair Constant of Control o	Tax ₩	E-mail						WE REFERE	250	14-1400	n w-water E- Empt	304, Na-NaOH, C=Cad	N. I. S	00:11	6:55	52:0	20.0	र्	5.25	10,30	1	2	Date/Time	ers@cetlabs.com	: (203) 3//-9984 :: (203) 377-9952	(000) 077 0004	TING, INC.			
CHAIN OF CUSTODY RECORD  Chain of Custody  Next Day  Next Day  Next Day  Next Day  Next Day  Same Day  Next Day  Next Day  Same Day  Same Day  Same Day  Next Day  Same Day  Sam	CHAIN OF CUSTODY RECORD    Immaround   Driganics   Dri			di7	!				ų V		N.	ک  ہ	7,0-Other)	ا ا	-									Salid Wipe Other (Specify)	DW=Drinking W. C=Cassette	A=Air S=Soil W=Water	Matrix				
Volatile S  Volatile S  Volatile S  Volatile S  Volatile S  Volatile S  Collent:  CET:  Project Information  PO #:  Project Information  PO #:  SPLP  Field Filtered  CET:  Collector(s):  SPLP  Fried Filtered  CET:  SPLP  Fried Filtered  CET:  SPLP  Fried Filtered  CET:  SPLP  Fried Filtered  SPLP  Fried Filtered  SPLP  Fried Filtered  SPLP  SPLP  SPLP  Fried Filtered  SPLP  SPLP  SPLP  Fried Filtered  SPLP  SPLP  SPLP  SPLP  SPLP  SPLP  Fried Filtered  SPLP  S	Volatile Soils Only:    Date and Time in Freezer			r k					J					V								_		Next Day	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Time ** (check one)	Turnaround	CIAIN			
Volatile S  Volatile S  Volatile S  Volatile S  Volatile S  Volatile S  Collent:  CET:  Project Information  PO #:  Project Information  PO #:  SPLP  Field Filtered  CET:  Collector(s):  SPLP  Fried Filtered  CET:  SPLP  Fried Filtered  CET:  SPLP  Fried Filtered  CET:  SPLP  Fried Filtered  SPLP  Fried Filtered  SPLP  Fried Filtered  SPLP  SPLP  SPLP  Fried Filtered  SPLP  SPLP  SPLP  Fried Filtered  SPLP  SPLP  SPLP  SPLP  SPLP  SPLP  Fried Filtered  SPLP  S	Volatile Soils Only:    Date and Time in Freezer	Lab Use: Evidence of C Temp Upon R	RSR Reporting	Data Report	QA/QC	Location:	Project:	Project Contact	1	10 E	NOTES: A													8260 Arc 8260 Ha	omatic logen:	s	0	7 000			
Or N  Project Information  Project Information  Post   Collector(s):   Collect	Volatile Soils Only:    Date and Time in Freezer	cooling:	Limits (check on		Ze Ze		1	TO		,				4									7	8270 PN PCBs	IAs		rganics				
SHEE SHEE	Collient:  Date and Time in Freezer  Client:  Additional Analysis  Additional Analysis  Additional Analysis  CATRACTION  COUNTIES  BEEF BOAN  SHEEF DOAN  SHEEF DO		١.	Ema		4	1	4.18		3	-													Herbicide 13 Priori 8 RCRA	es		Metals				
SHEE	Collient:  Date and Time in Freezer  Client:  Additional Analysis  Additional Analysis  Additional Analysis  CATRACTION  COUNTIES  BEEF BOAN  SHEEF DOAN  SHEEF DO	q	□GA		Specific (MS/MSI	გ 	<b>'</b> ••	Project Info		DOX HUE														TCLP SPLP	ered		(check all that ap				
Additional Analysis  Additional Analysis  Additional Analysis  Additional Analysis  Other   DOAW  Other   Specify	Analysis  Analysis  Off Ther (specify)	z	X	$\bowtie$	اِ	1	)ject #:	mation			\													Lab To F	ilter		ply)	CET:	- 1	Volatile So	C   #
ne in Freez nalysis nalysis	alysis  Doww.				ωŀ		1	1	1	*								$\exists$									Addi		ate	oils (	5
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Standard Operating Procedures Used During Characterization of the Site

#### Standard Operating Procedures Used During Characterization of the Site

Samples of the stained concrete have been collected from locations throughout the building on several occasions since 2006. In every case including and since 2006, samples have been collected in accordance with the 2011 US EPA Region I "Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs)". An impact hammer drill with a one-inch diameter carbide drill bit has been used to create a uniform finely ground powder capable of being easily homogenized, extracted and analyzed. Samples have been collected in ½ inch intervals from the respective floor surfaces to depths of two inches into the floors. Samples have generally been identified by the maximum depth that each ½ inch interval reached, unless the sample name specifically indicates otherwise.

At some locations, multiple samples were collected from different sample intervals within a single borehole. In those cases, samples were collected from the upper concrete floor interval with steel scoops and the boreholes were HEPA vacuumed to remove debris before deeper drilling took place. Drill bits were consistently scrubbed with Alconox/water solution, rinsed and dried between each boring and each drilling step per boring.

Samples were labeled in the field, stored in chilled coolers, and tracked using chain of custody forms from the field to the laboratory. Samples collected in 2013 were processed using Soxhlet extraction; samples collected in 2006 and earlier were not. Samples collected in 2013 were analyzed by SW-846 Method 8082 for total PCB concentration; samples collected in 2006 were analyzed by SW-846 Method 8082. In addition, concrete floor samples collected in late 2006 were analyzed by SW-846 Method 680 and were reported by homolog identification.

Indoor air samples were collected in three separate 2013 events. In the first event, a temporary polyethylene sheeting enclosure, roughly the size and shape of potential future apartment dimensions, was erected within the former Capewell manufacturing building above a location where the highest PCB concentration measured in stained concrete was located. A polyurethane foam (PUF) sample collection ampule was deployed to collect air over a 24-hour period at an influent flow rate of 5 liters per minute under static, quiescent conditions within the enclosure. A second sample was collected during a second 24 hour period in which air movement inside the enclosure was applied by operation of a commercial room fan.

In the second event, a smaller area within the temporary enclosure was further subdivided with polyethylene sheeting to the dimension of a typical bedroom, and a ½ inch layer of mascrete concrete was temporarily applied to the floor to simulate potential encapsulation of the stained concrete. Air samples were collected for two 24-hour periods during an initial static condition and a following period that included operation of a commercial room air heater intended to simulate residential conditions above the potentially encapsulated remediation waste.

The third event utilized a stainless steel flux chamber installed over the area of the second highest PCB concentration in stained concrete. The exterior flange of the flux chamber was sealed to the concrete floor using pure silicone and a PUF ampule was installed before the inlet to the chamber in order to filter any PCB in air or dust from outside the chamber volume and to prevent it from entering the chamber, where PCB concentration solely from stain volatilization was intended to be measured. The chamber was conditioned for a 12-hour period in this configuration at a flow rate of 5 liters per minute, then a PUF ampule was installed on the effluent port of the chamber for a 24-hour period to obtain a sample of air potentially affected by volatilization from the PCB oil stain.



**Pre-Cleanup Characterization Sample Results** 

#### Pre-Cleanup Characterization Sample Results

Table 1 summarizes the laboratory analytical results of all of the concrete samples that were evaluated by Environmental Partners during characterization of pre-cleanup conditions.

Figure 1 and Figure 2 graphically present the PCB concentrations measured in each of the samples that were evaluated. The figures are attached and are included in the CD provided with this report

Laboratory analytical reports of samples collected by Environmental Partners, LLC are included in Appendices A, B, and C, on the attached CD as noted above. Laboratory analytical results and reporting information produced in 1989 by other is included in Appendix D on the attached CD.

Data	Samula ID	DCDs (nam)	Floor	Dow	Column	Depth (in.)	Cailing	Augalau	Evenostion
<u>Date</u> 7/10/1989	Sample ID 102 A	PCBs (ppm) <0.95	Floor 1	Row B	Column 30	Depth (in.)	<u>Ceiling</u>	Aroclor 1254	Extraction
7/10/1989	102 A	<0.92	1	G	29	2		1254	
7/10/1989	102 D	<0.95	1	0	29.5	2		1254	
7/10/1989	103 D	<0.88	1	0	26.5	2		1254	
7/10/1989	104 D	<0.9	1	R	25	2		1254	
7/10/1989	106 D	<0.89	1	Р	19.5	2		1254	
7/10/1989	109 B	<0.88	1	Н	12	2		1254	
7/10/1989	112 A	<0.93	1	D	5	2		1254	
7/10/1989	210 A	28	2	Α	23.5	2		1254	
7/10/1989	211 A	75	2	С	22	2		1254	
7/10/1989	212 B	56	2	ı	21.5	2		1254	
7/10/1989	213 A	<45	2	С	20	2		1254	
7/10/1989	215 A	520	2	С	18.5	2		1254	
7/10/1989 7/10/1989	218 A 218 B	46 65	2 2	B F	16 15.5	2		1254 1254	
7/10/1989	219 B	36	2	G	14.5	2		1254	
7/10/1989	220 A	8.8	2	С	13.5	2		1254	
7/10/1989	222 B	14	2	G	11.5	2		1254	
7/10/1989	225 A	7.7	2	A	8	2		1254	
7/11/1989	205 D	<2.0	2	Р	29	2		1254	
7/12/1989	220 B	28	2	G	13.5	2		1254	
7/12/1989	221 B	3	2	P	13	2		1254	
7/12/1989	222 B	8	2	P	11.5	2		1254	
7/12/1989	223 B Brown	<20	2			2		1254	
7/12/1989	223 B White	4.2	2	F	10.5	2		1254	
7/12/1989	224 B	6.7	2	G	9.5	2		1254	
7/12/1989	225 B Brown	3.9	2			2		1254	
7/12/1989	225 B White	<2.0	2	_		2		1254	
7/12/1989	225 D	3.5	2	R	8.5 7	2		1254	
7/12/1989 7/12/1989	226 B 303 B"	3.2	3	F	/	2		1254 1254	
7/12/1989	303 C	<2.0	3	М	30.5	2		1254	
7/12/1989	304 B	<2.0	3	H	29.5	2		1254	
7/12/1989	304 C	2.4	3	N	29.5	2		1254	
7/12/1989	304 D	<8.0	3	P	29.5	2		1254	
7/12/1989	305 B	2.2	3	Н	28.5	2		1254	
7/12/1989	306 B'	4.5	3	F	27.5	2		1254	
7/12/1989	306 B"	<2.0	3	J	27.5	2		1254	
7/12/1989	306 C	<2.0	3	J	27.5	2		1254	
7/12/1989	307 B'	<2.0	3	Н	26.5	2		1254	
7/12/1989	308 B	3	3	F	25.5	2		1254	
7/12/1989	308 C	<2.0	3	J	25.5	2		1254	
7/12/1989	308 D	<2.0	3	0	25	2		1254	
7/12/1989	309 B	3.3	3	E	24.5	2		1254	
7/12/1989 7/12/1989	310 A 312 C	<2.0 5.3	3	A K	24 22	2		1254 1254	
7/12/1989	312 C	2.5	3	P	21.5	2		1254	
7/12/1989	314 A	<2.0	3	C	19.5	2		1254	
7/12/1989	314 B	<2.0	3	E	20	2		1254	
7/12/1989	315 A	7.7	3	Α	19	2		1254	
7/12/1989	316 A	<2.0	3	С	17	2		1254	
7/12/1989	317 B	5	3	G	17.5	2		1254	
7/12/1989	318 A'	<2.0	3	В	16.5	2		1254	
7/12/1989	318 A"	<2.0	3	D	17	2		1254	
7/12/1989	318 B	<2.0	3	G	17	2		1254	
7/12/1989	319 A	<2.0	3	D	15.5	2		1254	
7/12/1989	319 B	<2.0	3	F	16	2		1254	
7/12/1989	320 A'	3.8	3	A	14.5	2		1254	
7/12/1989	320 A"	15	3	E	14.5	2		1254	
7/12/1989	321 A	<2.0	3	D	13.5	2		1254	
7/12/1989 7/12/1989	322 A 323 A'	<2.0 <2.0	3	D A	12 11.5	2		1254 1254	
7/12/1989	323 A"	7.5	3	D D	11.5	2		1254	1
7/12/1989	324 A'	9.3	3	A	10.5	2		1254	
7/12/1989	324 A"	31	3	D	10.5	2		1254	
1112/1303	J24 A	J.	,		10.5			1237	1

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<u>Date</u>	Sample ID	PCBs (ppm)	<u>Floor</u>	Row	Column	Depth (in.)	<u>Ceiling</u>	<u>Aroclor</u>	Extraction
7/12/1989	325 A'	91	3	Α	9.5	2		1254	
7/12/1989	325 A"	9.3	3	D	9.5	2		1254	
7/12/1989	325 D	<2.0	3	R	9	2		1254	<u> </u>
7/12/1989	326 A'	2.1	3	A	8.5	2		1254	<u> </u>
7/12/1989	326 A"	<2.0	3	С	9	2		1254	<u> </u>
10/12/2006	2F/G-10.5/0.5	0.75	2	G	10.5	0.5		1254/1260	<u> </u>
10/12/2006	2F/J-21.5/0.5	0.95	2	J	21.5	0.5		1254/1260	<u> </u>
10/12/2006	2F/I-4.5/0.5	1.7	2	1	4.5	0.5		1254/1260	
10/12/2006	2F/G-15.5/0.5	2	2	G	15.5	0.5		1254/1260	<del> </del>
10/12/2006	2F/F-13.5/0.5	2.5	2	F	13.5	0.5		1254/1260	
10/12/2006 10/12/2006	2F/D-18/0.5 2F/G-18/0.5	3.6 3.6	2 2	D G	18 18	0.5 0.5		1254/1260 1254/1260	1
10/12/2006	2F/C-13.5/0.5	4.4	2	С	13.5	0.5		1254/1260	1
10/12/2006	2F/A-23.5/0.5	5.2	2	A	23.5	0.5		1254/1260	
10/12/2006	2F/H-11.5/0.5	5.3	2	H	11.5	0.5		1254/1260	
10/12/2006	2F/D-20/0.5	5.6	2	D	20	0.5		1254/1260	
10/12/2006	2F/D-20/0.5 2F/D-11.5/0.5	9.5	2	D	11.5	0.5		1254/1260	
10/12/2006	2F/H-14/0.5	14	2	Н	14	0.5		1254/1260	
10/12/2006	2F/B-16/0.5	16	2	В	16	0.5		1254/1260	
10/12/2006	2F/C-25.5/0.5	18	2	С	25.5	0.5		1254/1260	<del>                                     </del>
10/12/2006	2F/H-28.5/0.5	18	2	Н	28.5	0.5		1254/1260	
10/12/2006	2F/C-23.5/0.5	22	2	С	23.5	0.5		1254/1260	
10/12/2006	2F/C-22/0.5	32	2	С	22	0.5		1254/1260	†
10/12/2006	2F/H-22.5/0.5	35	2	Н	22.5	0.5		1254/1260	
10/12/2006	2F/G-24.5/0.5	55	2	G	24.5	0.5		1254/1260	
10/12/2006	2F/H-11.5/1.5	3.2	2	Н	11.5	1.5		1254/1260	
10/12/2006	2F/C-23.5/1.5	12	2	C	23.5	1.5		1254/1260	
10/12/2006	2F/H-22.5/1.5	17	2	Н	22.5	1.5		1254/1260	
10/12/2006	2F/H-14/1.5	22	2	Н	14	1.5		1254/1260	
10/12/2006	2F/D-20/1.5	25	2	D	20	1.5		1254/1260	
10/13/2006	3F/D-20.5/0.5	0.4	3	D	20.5	0.5		ND	
10/13/2006	3F/F-9.5/0.5	0.4	3	F	9.5	0.5		ND	
10/13/2006	3F/Q-29.5/0.5	0.4	3	Q	29.5	0.5		ND	
10/13/2006	3F/O-23.5/0.5	0.41	3	0	23.5	0.5		1254/1260	
10/13/2006	3F/F-22/0.5	0.65	3	F	22	0.5		1254/1260	
10/13/2006	3F/B-11.5/0.5	0.76	3	В	11.5	0.5		1254/1260	
10/13/2006	3F/O-24.5/0.5	0.82	3	0	24.5	0.5		1254/1260	
10/13/2006	3F/A-14.5/0.5	0.83	3	Α	14.5	0.5		1254/1260	
10/13/2006	3F/G-17.5/0.5	0.9	3	G	17.5	0.5		1254/1260	
10/13/2006	3F/D-16/0.5	0.97	3	D	16	0.5		1254/1260	
10/13/2006	3F/Q-25/0.5	1.2	3	Q	25	0.5		1254/1260	
10/13/2006	3F/G-13.5/0.5	1.3	3	G	13.5	0.5		1254/1260	
10/13/2006	3F/G-19.5/0.5	1.3	3	G	19.5	0.5		1254/1260	
10/13/2006	3F/E-13.5/0.5	1.5	3	E	13.5	0.5		1254/1260	
10/13/2006	3F/F-11.5/0.5	1.8	3	F	11.5	0.5		1254/1260	<b></b>
10/13/2006	3F/A-9.5/0.5	2	3	A	9.5	0.5		1254/1260	<b></b>
10/13/2006	3F/D-8.5/0.5	2.1	3	D	8.5	0.5		1254/1260	
10/13/2006	3F/P-11/0.5	5.3	3	P	11	0.5		1254/1260	<del>                                     </del>
10/13/2006	3F/F-26.5/0.5	9	3	F	26.5	0.5		1254/1260	-
10/13/2006	3F/B-11.5/1.5	0.4	3	В	11.5	1.5		ND	<del>                                     </del>
10/13/2006	3F/F-9.5/1.5	0.4	3	F	9.5	1.5		ND	<del>                                     </del>
10/13/2006	3F/E-13.5/1.5	1.3	3	E	13.5	1.5		1254/1260	1
10/13/2006	3F/P-11/1.5	2.3	3	P	11	1.5		1254/1260	<del> </del>
10/13/2006	3F/F-26.5/1.5	13	3	F	26.5	1.5		1254/1260	Caubi-+
5/14/2013	J-28.5	0.95	2	J	28.5	0.5		1254	Soxhlet
5/14/2013	I-19.5	1	2	l v	19.5	0.5		1254	Soxhlet
5/14/2013	K-21.5	1.3	2	K	21.5	0.5		1254	Soxhlet
5/14/2013	J-24.5	1.7	2	J	24.5	0.5		1254	Soxhlet
5/14/2013	J-19	2.1	2	J	19	0.5		1254	Soxhlet
5/14/2013	J-11.5	2.6	2	J	11.5	0.5		1254	Soxhlet
5/14/2013 5/14/2013	J-14.5 I-13.5	3.3 6	2	J	14.5 13.5	0.5 0.5		1254 1254	Soxhlet Soxhlet
	Q-25.5	0.58	3	1	25.5	+		1254	
5/1/1/2012		U.30	3	Q	25.5	0.5		1234	Soxhlet
5/14/2013 5/14/2013	R-25.5	0.59	3	R	25.5	0.5		1254	Soxhlet

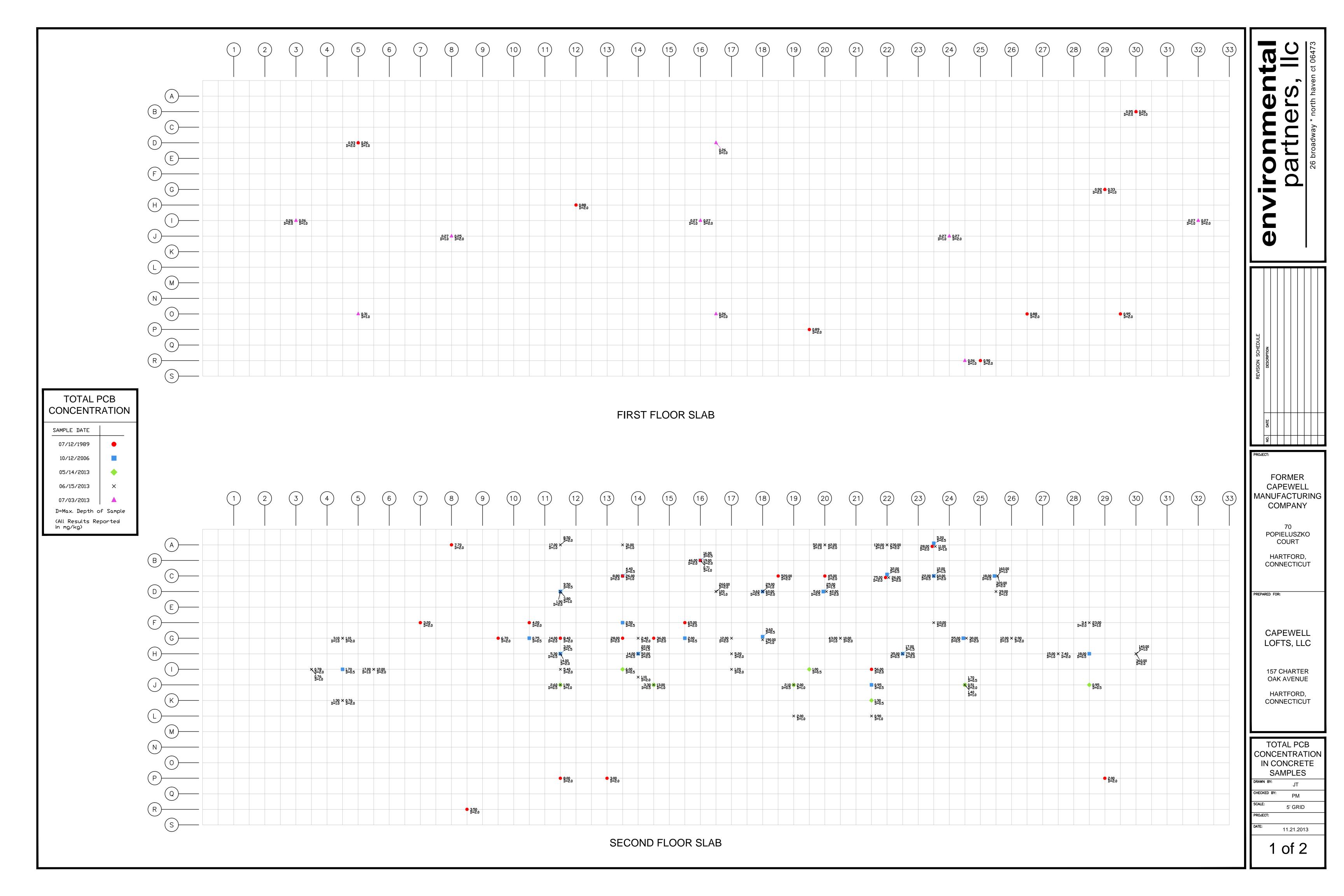
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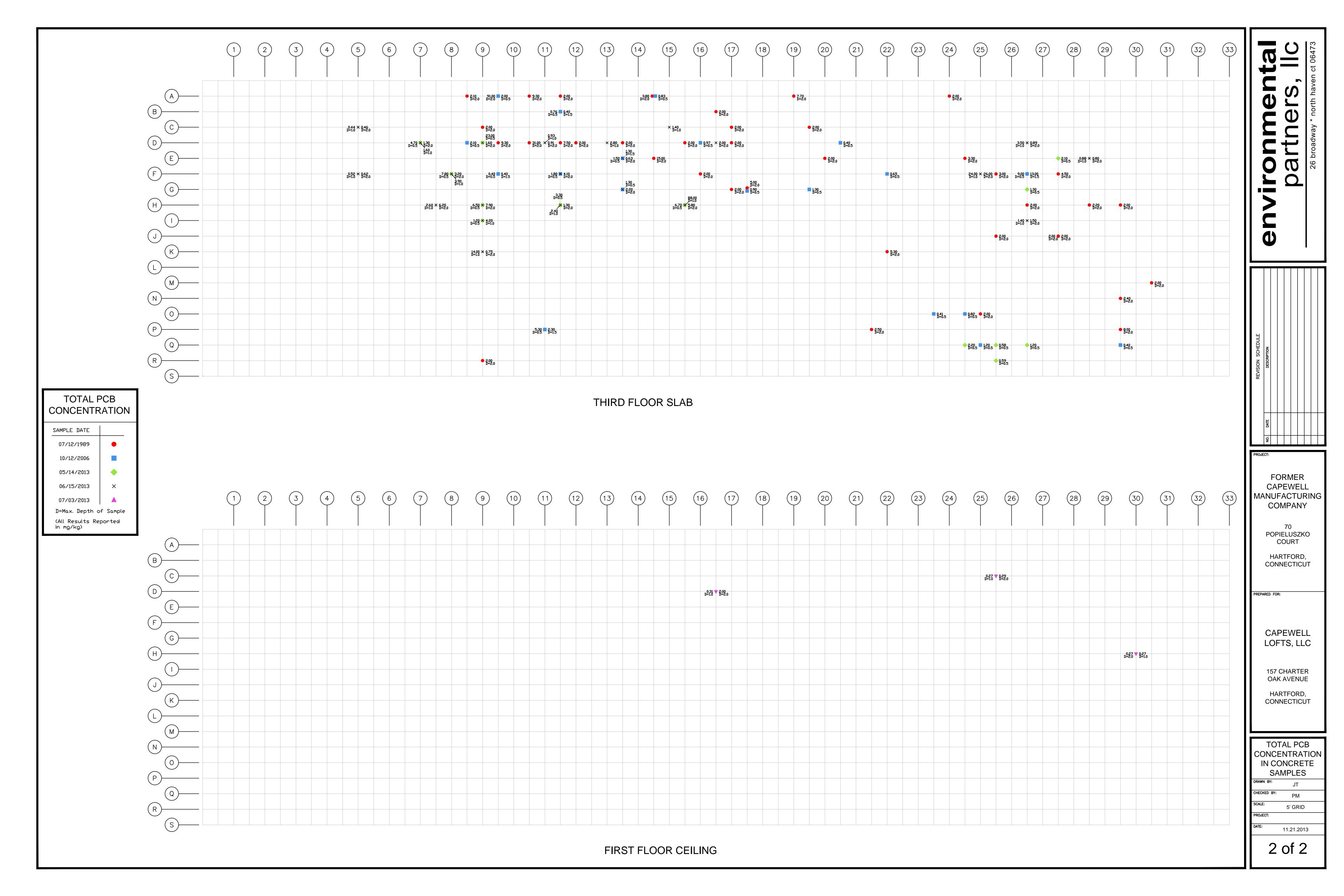
<u>Date</u>	Sample ID	PCBs (ppm)	Floor	Row	Column	Depth (in.)	Ceiling	Aroclor	<u>Extraction</u>
5/14/2013	Q-26.5	1.2	3	Q	26.5	0.5		1254	Soxhlet
5/14/2013	G-26.5	1.3	3	G	26.5	0.5		1254	Soxhlet
5/14/2013	E-27.5	2.1	3	E	27.5	0.5		1254	Soxhlet
5/14/2013	Q-24.5	2.2	3	Q	24.5	0.5		1254	Soxhlet
5/14/2013	H-11.5	3.3	3	H	11.5	0.5		1254	Soxhlet
5/14/2013 5/14/2013	D-7 H-9	4.7 6.5	3	D H	7 9	0.5 0.5		1254 1254	Soxhlet Soxhlet
5/14/2013	H-15.5	6.7	3	Н	15.5	0.5		1254	Soxhlet
5/14/2013	F-8	7.8	3	 F	8	0.5		1254	Soxhlet
5/14/2013	D-9	23	3	D	9	0.5		1254	Soxhlet
6/15/2013	1	<0.76	2	I	3.5	1		1254	Soxhlet
6/15/2013	2	<0.78	2	I	3.5	2		1254	Soxhlet
6/15/2013	3	3.1	2	G	4.5	1		1254	Soxhlet
6/15/2013	4	1.1	2	G	4.5	2		1254	Soxhlet
6/15/2013	5	1.3	2	К	4.5	1		1254	Soxhlet
6/15/2013	6	<0.76	2	К	4.5	2		1254	Soxhlet
6/15/2013	7	17	2	l i	5.5	1		1254	Soxhlet
6/15/2013	8	12	2	l l	5.5	2		1254	Soxhlet
6/15/2013	9	17	2	Α	11.5	1		1254	Soxhlet
6/15/2013 6/15/2013	10 11	8.5 3.8	2	A D	11.5 11.5	2 1		1254 1254	Soxhlet Soxhlet
6/15/2013	12	1.9	2	D	11.5	2		1254	Soxhlet
6/15/2013	13	8.4	2	G	11.5	2		1254	Soxhlet
6/15/2013	14	14	2	Н	11.5	2		1254	Soxhlet
6/15/2013	15	5.4	2	I	11.5	2		1254	Soxhlet
6/15/2013	16	1.9	2	J	11.5	1		1254	Soxhlet
6/15/2013	17	31	2	Α	13.5	1		1254	Soxhlet
6/15/2013	18	26	2	С	13.5	1		1254	Soxhlet
6/15/2013	19	2.4	2	G	14	2		1254	Soxhlet
6/15/2013	20	52	2	Н	14	2		1254	Soxhlet
6/15/2013	21	1.1	2	1.5	14	2		1254	Soxhlet
6/15/2013	22	13	2	J	14.5	1		1254	Soxhlet
6/15/2013 6/15/2013	23 24	<0.71	2	В	16	2		1254	Soxhlet
6/15/2013	25	19 120	2	B D	16 16.5	1		1254 1254	Soxhlet Soxhlet
6/15/2013	26	260	2	D	16.5	2		1254	Soxhlet
6/15/2013	27	12	2	G	17	2		1254	Soxhlet
6/15/2013	28	5.2	2	Н	17	2		1254	Soxhlet
6/15/2013	29	1.2	2	I	17	2		1254	Soxhlet
6/15/2013	30	29	2	D	18	1		1254	Soxhlet
6/15/2013	31	60	2	D	18	2		1254	Soxhlet
6/15/2013	32	190	2	G	18	1		1254	Soxhlet
6/15/2013	33	2	2	J	19	1		1254	Soxhlet
6/15/2013	34	2	2	L	19	1		1254	Soxhlet
6/15/2013	35	52	2	A	20	1		1254	Soxhlet
6/15/2013	36	42	2	A	20	2		1254	Soxhlet
6/15/2013 6/15/2013	37 38	42 43	2	D G	20 20.5	1		1254 1254	Soxhlet Soxhlet
6/15/2013	39	10	2	G	20.5	2		1254	Soxhlet
6/15/2013	40	<0.9	2	L	21.5	1		1254	Soxhlet
6/15/2013	41	130	2	A	22	1		1254	Soxhlet
6/15/2013	42	230	2	A	22	2		1254	Soxhlet
6/15/2013	43	26	2	С	22	2		1254	Soxhlet
6/15/2013	44	75	2	Н	22.5	2		1254	Soxhlet
6/15/2013	45	11	2	Α	23.5	1		1254	Soxhlet
6/15/2013	47	60	2	С	23.5	2		1254	Soxhlet
6/15/2013	48	110	2	F	23.5	2		1254	Soxhlet
6/15/2013	49	30	2	G	24.5	2		1254	Soxhlet
6/15/2013	50	1.4	2	J	24.5	1		1254	Soxhlet
6/15/2013	51	<0.51	2	J	24.5	2		1254	Soxhlet
6/15/2013 6/15/2013	52 53	160 320	2	C C	25.5 25.5	2		1254 1254	Soxhlet Soxhlet
6/15/2013	54	320	2	D	25.5	1		1254	Soxhlet
6/15/2013	55	12	2	G	26	1		1254	Soxhlet
6/15/2013	56	2.9	2	G	26	2		1254	Soxhlet
0, 20, 2013	. 33	,	_					1257	COMME

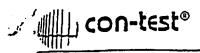
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<u>Date</u>	Sample ID	PCBs (ppm)	<u>Floor</u>	<u>Row</u>	<u>Column</u>	Depth (in.)	<u>Ceiling</u>	<u>Aroclor</u>	<u>Extraction</u>
6/15/2013	57	15	2	Н	27.5	1		1254	Soxhlet
6/15/2013	58	7.4	2	Н	27.5	2		1254	Soxhlet
6/15/2013	59	23	2	F	28.5	1		1254	Soxhlet
6/15/2013	60	3.4	2	F	28.5	2		1254	Soxhlet
6/15/2013	61	140	2	Н	30	1		1254	Soxhlet
6/15/2013	62	360	2	Н	30	2		1254	Soxhlet
6/15/2013	63	<0.44	3	С	5	1		1254	Soxhlet
6/15/2013	64	<0.46	3	С	5	2		1254	Soxhlet
6/15/2013	65	<0.52	3	F	5	1		1254	Soxhlet
6/15/2013	66	<0.62	3	F	5	2		1254	Soxhlet
6/15/2013	67	1.6	3	D	7	1		1254	Soxhlet
6/15/2013	68	1.3	3	D	7	2		1254	Soxhlet
6/15/2013	69	2.6	3	Н	7.5	1		1254	Soxhlet
6/15/2013	70	6.2	3	Н	7.5	2		1254	Soxhlet
6/15/2013	71	3.9	3	F	8	1		1254	Soxhlet
6/15/2013	72	3.2	3	F	8	2		1254	Soxhlet
6/15/2013	73	1.6	3	D	9	2		1254	Soxhlet
6/15/2013	74	7.9	3	Н	9	2		1254	Soxhlet
6/15/2013	75	4.2	3	I	9	1		1254	Soxhlet
6/15/2013	76	14	3	К	9	1		1254	Soxhlet
6/15/2013	77	0.75	3	К	9	2		1254	Soxhlet
6/15/2013	78	<0.93	3	D	11	1		1254	Soxhlet
6/15/2013	79	<0.91	3	D	11	2		1254	Soxhlet
6/15/2013	80	4.1	3	F	11.5	2		1254	Soxhlet
6/15/2013	81	2.4	3	Н	11.5	1		1254	Soxhlet
6/15/2013	82	1.3	3	Н	11.5	2		1254	Soxhlet
6/15/2013	83	2.8	3	D	13	1		1254	Soxhlet
6/15/2013	84	<0.63	3	E	13.5	2		1254	Soxhlet
6/15/2013	85	2.2	3	G	13.5	2		1254	Soxhlet
6/15/2013	86	1.4	3	С	15	1		1254	Soxhlet
6/15/2013	87	88	3	Н	15.5	1		1254	Soxhlet
6/15/2013	88	5.8	3	Н	15.5	2		1254	Soxhlet
6/15/2013	89	24	3	F	25	1		1254	Soxhlet
6/15/2013	90	26	3	F	25	2		1254	Soxhlet
6/15/2013	91	3.5	3	D	26.5	1		1254	Soxhlet
6/15/2013	92	0.89	3	D	26.5	2		1254	Soxhlet
6/15/2013	93	1.4	3	I	26.5	1		1254	Soxhlet
6/15/2013	94	1.5	3	I	26.5	2		1254	Soxhlet
6/15/2013	95	0.88	3	E	28.5	1		1254	Soxhlet
6/15/2013	96	<0.8	3	E	28.5	2		1254	Soxhlet
7/3/2013	I3(1")	<0.26	1	ı	3	1		1254	Soxhlet
7/3/2013	J8(1")	<0.27	1	J	8	1		1254	Soxhlet
7/3/2013	I16(1")	<0.27	1	ı	16	1		1254	Soxhlet
7/3/2013	J24(1")	<0.27	1	J	24	1		1254	Soxhlet
7/3/2013	132(1")	<0.27	1	ı	32	1		1254	Soxhlet
7/3/2013	D5(1")	<0.26	1	D	5	1		1254	Soxhlet
7/3/2013	O5(1")	<0.31	1	0	5	1		1254	Soxhlet
7/3/2013	D16.5(1")	<0.26	1	D	16.5	1		1254	Soxhlet
7/3/2013	O16.5(1")	<0.26	1	0	16.5	1		1254	Soxhlet
7/3/2013	R24.5(1")	<0.26	1	R	24.5	1		1254	Soxhlet
7/3/2013	B30(1")	<0.26	1	В	30	1		1254	Soxhlet
7/3/2013	G29(1")	<0.33	1	G	29	1		1254	Soxhlet
7/3/2013	13(2")	<0.26	1	ı	3	2		1254	Soxhlet
7/3/2013	J8(2")	<0.25	1	J	8	2		1254	Soxhlet
7/3/2013	116(2")	<0.27	1	ı	16	2		1254	Soxhlet
7/3/2013	J24(2")	<0.27	1	j ,	24	2		1254	Soxhlet
7/3/2013	132(2")	<0.27	1	i	32	2		1254	Soxhlet
7/3/2013	C-D16.5(1")	<0.31		D	16.5	1	1	1254	Soxhlet
7/3/2013	C-H30(1")	<0.27		Н	30	1	1	1254	Soxhlet
7/3/2013	C-C25.5(1")	<0.27		С	25.5	1	1	1254	Soxhlet
7/3/2013	C-D16.5(2")	2		D	16.5	2	1	1254	Soxhlet
1/3/2013		· · · · · · · · · · · · · · · · · · ·						1	
7/3/2013	C-H30(2")	<0.27		H	30	2	1	1254	Soxhlet

12/4/2013 4 of 4







PCB STUDY

CONDUCTED AT

THE CAPEWELL MANUFACTURING BUILDING

60 GOVERNOR STREET

HARIFORD, CONNECTICUT

FOR

LAN ASSOCIATES

BY

CON-TEST, INC.





July 25, 1989

Mr. Mike Flanders Lan Associates One Corporate Road Enfield, CT 06082

Dear Mr. Flanders:

This letter should clarify the color ording on the FCB sampling plan for the Capevall Building. The dots represent sample locations. Gradient levels are indicated by the color of the sample number adjacent to the sample locations.

If you have any further questions, please feel free to call me.

Sincerely,

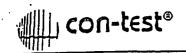
CON-TEST, INC.

Gary L. Ritter

Congl Path

Environmental Services Manager

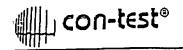
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APPENDIX A - LABORATORY RESULTS

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#### SCOPE OF WORK

Con-Test, Inc. was retained by Ian Associates to perform a Polychlorinated Biphenyl (PCB) study at the Capewell Manufacturing Building in Hartford, Connecticut. The purpose of this study is to determine the extent of PCB contamination on the concrete floors, to recommend remedial actions and to give estimated removal costs.

#### INTRODUCTION

In June, 1989 an initial group of samples collected of the concrete floors at the Capewell building revealed PCB contamination. These original findings prompted the follow-up study. At present, the Capewell building is unoccupied except for a portion of the third floor. However, since its construction at the turn of the twentieth century, the building has served as a manufacturing facility. Extensive use of lubricating oils on Capewell machinery is believed to have caused the PCB contamination.

#### SAMPLING STRATEGY

Sample locations were determined based on a 25-square foot grid system. A total of 200 samples were collected on a random basis and according to visually stained areas. Each sampling person donned Type B protective equipment. Rubber boots, disposable suits, Playtex gloves and full-face respirators were worn.

Two kinds of sampling techniques were used in determining PCB contamination. A standard wipe test was utilized in 129 of the 200 samples collected (notation indicating wipe samples are followed by the letter S). The results of this sampling technique defined boundaries of lateral contamination.

Also of interest in this study is the vertical extent of contamination. To determine the vertical extent, concrete samples were collected at one to two-inch depths using a power drill. In this technique, the drill bit was decontaminated between sample collections with hexane to prevent cross contamination.

#### INTERPRETATION OF RESULTS

Overall, PCB contamination in the Capewell building is considered to be low (0-500 ppm). Every sample analyzed on all three floors contained some concentration of PCBs. The plotted sample locations, their corresponding lab results and visually stained areas reveal regions of contamination that should not be disturbed during renovation of the building (see Figures 1-3 - Exclusion Zone).



According to Federal and State regulations, PCB contaminated surfaces need to be decontaminated to a level of less than 10 parts per million (ppm). Figures 1 through 3 show sample locations and indicate by color which samples are above 10 ppm. Regions of concrete floor to be excluded form disturbance during renovation will include the areas of greater than 10 ppm and spill boundaries of visual staining.

Since visual spill boundaries and contaminated areas of greater than 10 ppm have gradational contacts, some liberty has been taken in establishing a buffer zone around these sections of floor. These buffer zones are greater than or equal to one lateral foot from the contaminated boundary.

Those regions of the floor not within the exclusion zone may be disturbed during renovation. However, disturbance should occur only after the entire concrete floor has been cleaned. All three floors of the Capewell building will need remediation to safeguard against unreasonable risk of exposure.

#### RECOMMENDED REMEDIATION ACTIONS

In cases where old spills (prior to May 4, 1987) are determined to be PCB contaminated, remediation procedures are required to be submitted to the regional EPA office for review. Because this is an old spill on a non-impervious substrate, remediation may be difficult. Therefore, a combination of remediation actions will be used throughout the Capewell building.

- 1. Clean-up should begin with the removal of all visually contaminated debris and wood.
- 2. A double wash and rinse using a high pressure, low volume spray should be performed on each level across the entire floor. All run-off should be collected and disposed of.
- 3. A sealing agent equivalent to spray—on polyethylene should be applied to exclusion zones.
- \ 4. Finally, a fiberbond cement should be applied over all encapsulated areas.
  - 5. A post-sampling plan should be followed.
  - 6. A PCB clean-up plan should be submitted to appropriate State and Federal officials.



Suggested remediation actions for each floor are as follows:

#### First Floor

No exclusion zone has been placed on the first floor of the Capewell building. Visual staining is present on this level. However, all samples collected within the spill boundaries fell below 10 ppm. First floor laboratory results showed the lowest concentration of PCBs in the building from <0.88 to <2.0 ppm. Suggested remediation for this level is a double power wash/rinse. Post clean-up samples should be taken to establish certainty in exposure to reasonable risk.

#### Second Floor

A large exclusion zone has been placed on the second floor. One large area of samples greater than 10 ppm on the North side of the building and several visual stains nearby make up the exclusion zone. This floor contains the highest concentration of PCB contamination. Two samples analyzed greater than 500 ppm are located in the center of the large group of red sample locations (samples 215A and AS).

Clean-up should begin on this floor by removing all contaminated debris on the floor. The entire floor should be power washed/rinsed. After washing, the exclusion zone shall be treated with encapsulant and fiberbond cement. In the end, post clean-up samples will be collected to determine the remaining extent of contamination. Only after post clean-up, analysis definitely shows that the South and West sections of floor are clean should they be disturbed.

#### Third Floor

Sample locations greater than 10 ppm are more scattered than on the second floor. The exclusion zone on this floor also covers a large area. Restrictions during renovation should be placed on the North and Fast sides of the floor.

Remediation for this floor should follow the same course of action as the second floor. One addition to the third floor is that all moveable impervious machinery within the exclusion zone should be decontaminated by wiping their surfaces with hexane.

#### ESTIMATED REMEDIATION COSTS

The approximate cost for clean-up will be \$50,000.00. This figure does not include the cost of sealing agent and fiberbond cement that will be used in exclusion zones. Estimated cost per floor is as follows:

First Flcor: \$10,000.00 Second Flcor: \$23,000.00

Third Floor: \$17,000.00, plus machinery decontamination costs



July 19. 1989

Job #8048 Page 1 of 6

Ref: Lan Associates "Capewll Building"

The results of the Smear samples received on July 10, 1989 are listed below.

<u>Lab #</u> Samole #	PCB's
89B04423 (101 AS)	<2.0
89B04424 (101 BS)	<2.0
89B04425 (101 DS)	<2.0
89804429 (103 DS)	<2.0
89B04432 (105 BS)	<2.0
89804433 (105 DS)	<2.0
89B04435 (106 D)	<2.0
89804436 (106 AS)	<2.0
89B04437 (108 DS)	<2.0
89804439 (109 BS)	<2.0
89804440 (111 AS)	<2.0



Job #8048 Page 2 of 6

Contest -Environmental .....

Ref: Lan Associates

"Capewell Building"

The results of the Smear samples received on July 10, 1989 are listed below.

<u>Lab #</u> <u>Sample #</u>	PCB's
89B04442 (GARAGE)	<2.0
89B04443 (BOILER ROOM)	4.2
89B04444 (202 AS)	4.2
89B04445 (202 BS)	3.7
89B04446 (204 AS)	8.5
89B04447 (205 BS)	120
89B04448 (208 BS)	160
89804449 (209 BS)	58
89B04450 (210 AS)	130
89B04453 (211 AS)	150
89B04454 (211 BS)	100



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Contest -Env-ironmental .....

Ref: Lan Associates "Capewell Building"

The results of the Smear samples received on July 10, 1989 are listed below.

<u>Lab #</u> <u>Sample #</u>	PCB's
89B04455 (212 BS)	25
89B04458 - (215 BS)	47
89B04460 (215 AS)	<800 ×
89B04462 (218 BS)	<4.0 *
89B04465 (219 BS)	4.8
89804466 (220 AS)	<200 *
89304467 (220 BS)	13
89B04470 (222 BS)	40
89B04471 (222 AS)	13
89B04472 (224 BS)	<100 *
89804474 (225 AS)	7.8



Jcb #8048 Page 4 of 6

Contest Environmental ....

Ref: Lan Associates "Capewell Building"

<u>Lab #</u> <u>Sample #</u>	PCB's <u>ua</u>
89B04475 (225 BS)	5.5
89B04476 (227 BS)	<4.0 *
89B04477 (227 AS)	<4.0 *
89804478 (229 BS)	<4.0 *
89B04479 (229 BS)	31
89804480 (213 AS)	<100 *
89804481 (218 AS)	33

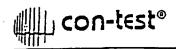


Job #8048 Page 4 of 6

Contest Environmental

Ref: Lan Associates "Capewell Building"

<u>Lab #</u> Sample #	PCB's <u>ua</u>
89B04475 (225 BS)	5.5
89B04476 (227 BS)	<4.0 *
89B04477 (227 AS)	<4.0 *
89804478 (229 BS)	<4.0 *
89B04479 (229 BS)	31
89B04480 (213 AS)	<100 *
89804481 (218 AS)	33



Job #8048 Page 5 of 6

Contest Environmental

Ref: Lan Associates "Capewell Building"

<u>Lab #</u> Sample #	PCB's <u>ma⁄ka</u>
89B04426 (102 A)	<0.95
89804427 (102 B)	<0.92
89B04428 (102 D)	<0.95
89B04430 (103 D)	<0.88
89304431 (104 D)	<0.90
89804434 (106 D)	<0.89
89B04438 (109 B)	<0.88
89B04441 (112 A)	<0.93
89804451 (210 A)	28
89804452 (211 A)	75
89804456 (212 B)	56



Job #8048 Page 6 of 6

Contest Environmental

Ref: Lan Associates
"Capewell Building"

The results of the Concrete samples received on July 10, 1989 are listed below.

<u>Lab #</u> <u>Sample #</u>		PCB's ma∕kg
89B04457 (213 A)		<45 <b>*</b>
89B04459 (215 A)		520
89B04461 (218 B)		65
89B04463 (218 A)	general man	46
89804464 (219 B)		36
89B04468 (220 A)		8.8
89B04469 (222 B)	÷	14
89B04473 (225 A)		7.7

<sup>\* =</sup> Samples are likely to contain PCB's at lower levels, but could not be quantitated due to matrix interferences. Higer LOD's are reported.

Comment(s): All PCB's found were Arociar 1254.

Analytical Method(s): GC-ECD

Sincerely,

Edward Denson

Edward Denson Laboratory Director



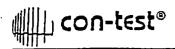
July 19, 1989

Job #8048 Page 1 of 9

Alan Desrosiers Contest Environmental

Ref: Lan Associates "Capewell Building"

<u>Lab #</u> <u>Sample #</u>		PCB's _ug
89B04542 (220 BS)		<4.0 *
89B04544 (221 BS)	4	<4.0 *
89B04547 (222 BS)		12
89804550 (223 BS)		<4.0 *
89B04552 (224 BS)	·	<4.0 *
89804555 (225 DS)	÷	<4.0 *
89804558 (226 BS)		<4.0 *
89B04559 (301 AS)		<4.0 *
89804560 (301 BS)		<4.0 *
89B04563 (304 BS)		<4.0 *
89B04564 (304 AS)		<4.0 *



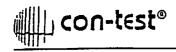
Job #8048 Page 2 of 9

Contest -Environmental ----

Ref: Lan Associates

"Capewell Building"

<u>Lab #</u> <u>Sample #</u>	PCB's
89B04566 (305 BS)	4.4
89B04568	<4.0 <b>*</b>
89B04570 (306 BS')	<4.0 *
89B04571 (306 BS")	<4.0 *
89B04573 (307 BS')	<20 *
89804574 (307 BS")	<4.0 *
89B04575 (308 AS)	<4.0 *
89B04577 (308 BS)	<4.0 *
89B04579 (309 BS)	<4.0 *
39804581 (310 AS)	<4.0 *
39804582 (310 BS)	<4.0 *



Job #8048 Page 3 of 9

Contest Environmental

Ref: Lan Associates

"Capewell Building"

<u>Lab =</u> Sample =		PCB's <u>ua</u>
89B04583 (311 AS)		<4.0 *
89B04584 (311 BS)	<del></del>	<20 *
89B04585 (313 AS)		<20 <b>*</b>
89804587 (314 AS)		<4.0 <b>*</b>
89B04589 (314 BS)		<20 <b>*</b>
89804591 (315 AS)	÷	<4.0 <b>*</b>
89B04593 (316 AS)	•	<4.0 *
89B04594 (316 BS)		4.8
89B4596 (317 BS)		<4.0 *
89804599 (318 AS/)		<4.0 *
89804601 (318 AS")		<4.0 *



Job #8048 Page 4 of 9

Contest Environmental .....

Ref: Lan Associates

"Capewell Building"

<u>Lab                                    </u>	PCB's ug
89B04602 (318 BS)	<4.0 *
89B04604 (319 AS)	<4.0 *
89B04606 (319 BS)	<4.0 <b>*</b>
89B04609 (320 AS')	<4.0 *
89B04611 (321 AS')	<4.0 *
89B04612 (321 AS")	<4.0 *
89B04613 (320 AS)	9.3
89804615 (322 AS)	<4.0 *
89804618 (323 AS')	<4.0 *
89B04619 (323 AS")	<4.0 *
89804622 (324 AS')	<4.0 *



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Contest Environmental......

Ref: Lan Associates "Capewell Building"

Lab # Sample #		PCB's
89B04623 (324 AS")		<4.0 *
89804626 (325 AS")		<4.0 *
89B04629 (326 AS")		<4.0 *
89B04630 (302 BS)	Action 1997	<4.0 *
89B04631 (325 AS)		5.0



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Contest Environmental

Ref: Lan Associates "Cupewell Building"

The results of the Concrete Dust samples received on July 12, 1989 are listed below.

<u>Lab #</u> Sample #	PCB's ma/kg
89B04541 (220 B)	28
89B04543 (221 B)	3.0
89804546 (222 B)	8.0
89B04548 (223 B WHITE)	4.2
89B04549 (223 B BROWN)	<20 *
89304551 (224 B)	6.7
89B04553 (225 B WHITE)	<2.0 *
89804554 (225 3 3ROWN)	3.9
89804556 (225 D)	3.5
89304557 (226 B)	3.2
89804561 (303 3")	3.0



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Contest Eavironmental ---

Ref: Lan Associates

"Capewell Building"

The results of the Concrete Dust samples received on July 12, 1989 are listed below.

Lab # Sample #	PCB's ma/ka
89B04562 (304 B)	<2.0 *
89B04565 (305 B)	2.2
89B04567 (306 B")	<2.0 *
89B04569 (306 B')	4.5
89B04572 (307 B')	<2.0 * .
89B04576 (308 B)	3.0
89804578 (309 B)	3.3
89B04580 (310 A)	<2.0 *
89804586 (314 A)	<2.0 *
89804588 (314 B)	<2.0 *
99804590	7.7



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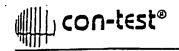
Contest Environmental

Ref: Lan Associates

"Capewell Building"

The results of the Concrete Dust samples received on July 12, 1989 are listed below.

<u>Lab #</u> Samole #	PCB's <u>mc/kg</u>
89B04592 (316 A)	<2.0 *
89804595 (317 B)	5.0
89B04597 (318 A')	<2.0 ×
89B04598 (318 A")	<2.0 *
89B04600 (318 B)	<2.0 *
89B04603 (319 A)	<2.0 *
89B04605 (319 B)	<2.0 *
89804607 (320 A')	3.8
89B04608 (320 A")	15
89804610 (321 A)	<2.0 *
89804614 (322 A)	<2.0 *



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Contest Environmental

Ref: Lan Associates "Capewell Building"

The results of the Concrete Dust samples received on July 12. 1989 are listed below.

<u>Lab #</u> Sample #		PCB's m <u>a/ka</u>	•	 ,		
89B04616 (323 A')		<2.0 *				
89B04617 (323 A")		7.5				
89804620 (324 A')		9.3				
89B04621 (324 A")	entation:	31				
89B04624 (325 A')		91				
89804625 (325 A°)		9.3				
89804627 (326 A')	•	2.1				<b>.</b>
89B04628 (326 A")	•	<2.0 *			:	

<sup>\* =</sup> Samples are likely to contain PCB's at lower levels, but could be quantitated due to matrix interferences. Higher LOD's are reported.

Comment(s): All PCB's found were Aroclor 1254.

Analytical Method(s): GC-ECD

Sincerely,

Edward Denson



July 19, 1989

Job #8048 Page 1 of 3

Alan Desrosiers .... Contest Environmental

Ref: Lan Associates

"Capewell Building"

<u>Lab #</u> Sample #	PCB's <u>ug</u>
89B04632 (301 CS)	<4.0 *
89B04633 (303 CS)	<4.0 *
89B04636 (304 CS)	4.5
89B04638 (306 CS)	<4.0 <b>*</b>
89B04639 (307 CS)	<4.0 <b>*</b>
89B04641 (308 CS)	4.8
89B04642 (309 CS)	<4.0 *
89B04643 (310 CS)	<4.0 *
39B04645 (312 CS)	<4.0 *
39804646 313 CS)	<4.0 <b>*</b>
39B04647 302 DS)	5.2



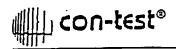
Job #8048 Page 2 of 3

Contest Environmental .....

(329 DS)

Ref: Lan Associates "Capewell Building"

<u>Lab #</u> <u>Sample #</u>		PCB's <u>ua</u>	• ••
89804649 (304 DS)		<16 *	
89B04650 (305 DS)		<4.0 *	
89B04651 (306 DS)		<4.0 *	
89B04653 (308 DS)	statum i vie	- <16 *	
89804654 (310 DS)		<4.0 *	
89B04656 (312 DS)		4.6	
89B04657 (324 DS)	÷	<4.0 *	
89B04658 (325 DS)		<4.0 *	
89B04660 (327 DS)		<4.0 *	
B9B04661	•	<4.9 *	



Job #8048 Page 3 of 3

Contest Environmental

Ref: Lan Associates

"Capewell Building"

The results of the Concrete samples received on July 12. 1989 are listed below.

<u>Lab #</u> Sample #	PCB's m <u>a∕k</u> a	
89804634 (303 C)	<2.0 *	
89B04635 (304 C)	2.4	
89B04637 (306 C)	<2.0 *	
89B04640 (308 C)	<2.0 *	
89B04644 (312 C)	5.3	
89B04648 (304 D)	<8.0 *	
8°804652 (308 D)	<2.0 *	
89B04655 (312 D)	2.5	
89304659 (325 D)	<2.0 *	.+

<sup>\* =</sup> Samples are likely to contain PCB's at lower levels, but could not be quantitated due to matrix interferences. Higher LOD's are reported.

Comment(s): All PCB's found were Aroclor 1254.

Analytical Method(s): GC-ECD

Sincerely,

Edward Denson



July 19, 1989

Job #8048 Page 1 of 3

Alan Desroslers Contest Environmental

Ref: Lan Associates

"Capewell Building"

<u>Lab #</u> <u>Sample #</u>	PCB's
89B04499 (201 CS)	<4.0 *
89B04500 (204 CS)	<4.0 *
89804501 (209 CS)	6.4
89B04502 (208 CS)	<4.0 *
89B04503 (211 CS)	<4.0 *
89B04504 (217 CS)	5.8
89B04505 (223 CS)	<4.0 *
89B04506 (227 CS)	<4.0 *
89B04507 (230 CS)	<4.0 *
89B04508 (202 DS)	<4.0 *
89304509 (203 DS)	<4.0 *



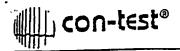
Job #8048 Page 2 of 3

Contest Environmental

Ref: Lan Associates

"Capewell Building"

Lab # Sample #	PCB's _ua
89B04510 (205 DS)	<4.0 <b>*</b>
89B04512 (206 DS)	4.0
89B04513 (209 DS)	<4.0 *
89B04514 (216 DS)	<4.0 *
89B04515 (221 DS)	<4.0 *
89B04516 (222 DS)	<4.0 *
89B04517 (225 DS)	<4.0 *
89B04518 (227 DS)	<4.0 *
89B04519 (230 DS)	9.7



Job #8048 Page 3 of 3

Contest Environmental

Ref: Lan Associates

\*Capewell Bullding"

The result of the Cement sample received on July 11, 1989 is listed below.

<u>Lab #</u>	PCB's
<u>Sample #</u>	<u>ma/ka</u>
89B04511 (205 D )	<2.0 *

\* = Samples are likely to contain PCB's at lower levels, but could not be quantitated due to matrix interferences. Higher LOD's are reported.

Comment(s): All PCB's found were Aroclor 1254.

Analytical Method(s): GC-ECD

Sincerely,

CON-TEST, Inc.

Edward Denson Laboratory Director



### **Evaluation of PCB Cleanup Alternatives**

#### **Self-Implementing Remediation Waste Removal by Floor Scarification**

Reference: 761.61 (a) Effectiveness: Moderate Approvability: Moderate

Cost: High (\$1.07 million)

Recommended ?: No

Discussion:

Scarification and removal of over two inches of concrete from contaminated locations is considered to be an infeasible remedy for the conditions identified. PCB was detected and measured at concentration greater than 1 mg/kg at a depth of two inches below floor surface at more than 50% of locations sampled on the second floor. Removal of more than two inches of floor thickness was determined to be inconsistent with structural considerations for building reuse and estimated to represent high cost.

Task	Notes	Cost (\$K)
Planning & Management		150
Scarification	50,000 sf @ \$6 / sf	300
Waste Disposal	600 tons @ \$150 / ton	100
Replacement of Concrete	50,000 sf @ \$8 /sf	400
Confirmation Sampling	600 samples @\$200	120
TOTAL		1070

## Self-Implementing Remediation Waste Removal by Floor Demolition and Replacement

Reference: 761.61 (a) Effectiveness: High Approvability: High

Cost: High (\$1.95 million)

Recommended ?: No

Discussion:

Selective demolition of portions of the former factory floors is considered to be an infeasible remedy for the conditions identified. Elevated floor sections would require cutting and removal with provisions to prevent structural damage to the building. Removed sections would require disposal as PCB remediation waste. Replacement floor sections would require installation using interior superstructure concrete pouring methods. These activities are estimated to represent high cost.

Task	Notes	Cost (\$K)
Planning & Management		150
Structural Design		100
Selective Slab Demolition	50,000 sf @ \$10 / sf	500
Waste Disposal	2500 tons @ \$180 / ton	450
Slab Replacement	50,000 sf @ \$15 / sf	750
TOTAL		1950

#### Performance -Based Decontamination

Reference: 761.79 (c)

Effectiveness: Low Approvability: Low

Cost: Not Estimated

Recommended ?: No

Discussion:

Decontamination of portions of the former factory floors is considered to represent an infeasible remedy for the conditions identified. Performance –based organic decontamination fluids or a combination of water, steam, and detergents might be used to attempt decontamination of the floors, but effectiveness is highly unlikely. Collection of decontamination fluids would require prevention of cross-contamination of building interior. Costs are not estimated due to the unlikely nature of success of the alternative.

## **Risk-Based Disposal**

Reference: 761.61 (c) Effectiveness: High Approvability: High

Cost: Moderate (\$575 K)

Recommended ?: Yes

Discussion:

Leaving PCB oil stains on concrete floors in place is considered to represent the most feasible remedy for the conditions identified. A human health risk assessment identified an acceptable level of PCBs in indoor air for the former Capewell manufacturing building, and a two-phase diffusion model estimated the potential concentration of PCB in indoor air both with and without an encapsulant. In addition, indoor air samples collected from a flux chamber experiment conducted on the second floor of the building were used to calibrate the diffusion model. Those results showed that PCB concentrations in air associated with diffusion from the stained concrete floor were below the calculated site-specific allowable indoor air concentration.

Task	Notes	Cost (\$K)
Planning & Management		75
Risk Assessment		100
Concrete Encapsulation	50,000 sf @ \$5 / sf	250
Long Term Monitoring	500 samples @ \$200	100
Financial Assurance Bond		50
Total		575



# Human Health Risk Assessment CDM Smith



50 Hampshire Street Cambridge, Massachusetts 02139

tel: 617 452-6000 fax: 617 452-8000

December 5, 2013

Environmental Partners, LLC Mr. Paul Muniz 100 Columbus Blvd., Suite 503 Hartford, CT 06103-2819

Subject: Human Health Risk Assessment

Former Capewell Manufacturing Building

Hartford, CT

Dear Mr. Muniz:

Environmental Partners, LLC (EP) has requested that CDM Smith evaluate indoor air risks to human health associated with polychlorinated biphenyls (PCBs) detected in the concrete floors of the Capewell building, located at 70 Popieluszko Court in Hartford, Connecticut. This letter describes a site-specific human health risk assessment to evaluate whether the Capewell building can be safely redeveloped for residential housing, in support of a proposed 40 CFR 761.6(c) risk-based disposal of PCBs. The analysis relies on key site-specific measurements and a variety of models/technical approaches designed to estimate PCB emission rates from the floors.

The risk assessment finds that, even without mitigation measures, PCB concentrations in indoor air are likely to be lower than the site-specific risk-based target concentration necessary to protect the health of future residents of the former Capewell building. The proposed use of encapsulation, in the form of an added leveling layer of clean concrete is expected to provide an additional degree of protection to prevent significant health risks to future residents.

The details of the site-specific human health risk assessment are presented below.

#### **Background**

The Capewell building was constructed in 1903 and used for manufacturing horsenails and other commercial products until it was vacated. Investigations of the building's concrete floors in 1989, 2006, and 2013 identified the presence of PCBs that would represent PCB remediation waste if the concrete is removed. The source of the PCBs is unknown, but it is believed to be related to the presence of PCBs in production oils used in the manufacturing process at some time during the



building's manufacturing era. PCB contamination within the concrete floors<sup>1</sup> is most prevalent on the 2<sup>nd</sup> and 3<sup>rd</sup> floors of the building. PCB concentrations generally range from ND–50 ppm (mg/kg), but higher PCB concentrations (up to 520 ppm) have been detected in a few samples.

Plans to rehabilitate the building and convert it to residential housing are under development. The reinforced concrete floors are an integral structural component of the building, and removal of the floors has been determined to be prohibitively expensive. CDM Smith has been asked to evaluate the feasibility of risk based disposal in place and to consider potentially mitigated and unmitigated exposure conditions.

This report describes a modeling analysis and health risk assessment supported by measurements designed to estimate the residual levels of PCBs in the floors and the emission rate from the floors.

## **PCB Occurrence in Capewell Concrete Floors**

EPA Method 680 was used in 2013 to determine the homologue patterns of PCBs present in the concrete floors in recent samples. Figure 1 compares the homologue groups detected in eight concrete samples (C25.5-A through –D, and H30-A through –D) with the homologue distributions in the Aroclor 1016 and 1254 reference mixtures (ATSDR, 2000). The 2013 samples were collected in two areas of the building's second floor (C25.5 and H30) where 1989 and 2006 sampling surveys identified elevated PCB levels. The bars of Figure 1 indicate the relative fractions of PCB homologues in each concrete sample, and lines reflect compositions of the three Aroclor mixtures. All the concrete samples match best to the homologue pattern of Aroclor 1254, with the pentachlorobiphenyls most prevalent. This observation concurs with the results of 1989 through 2013 SW846 8082A analyses of the concrete floors that have consistently identified the PCBs present as matching Aroclor 1254.

<sup>&</sup>lt;sup>1</sup> This report is concerned only with the contamination within the concrete of the floors that will not be removed; there is also widespread contamination of dust, paint, and plaster that will be removed.



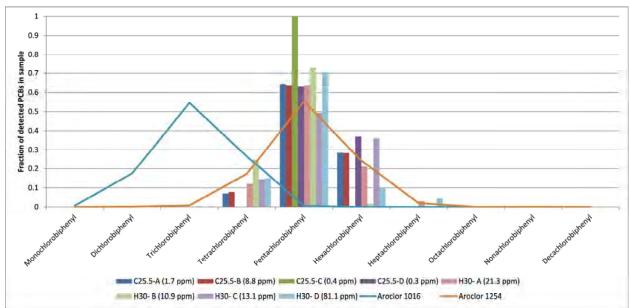


Figure 1 Profiles of PCB homologues detected in concrete samples compared with Aroclor mixtures. Bars plot the relative fractions of PCB homologue groups detected in each sample (normalized to a total of 1). Total concentrations of PCBs in ppm (mg/kg) indicated in parentheses in legend.

## **PCB Occurrence in Capewell Indoor Air**

PCB congeners are known to volatilize at differing rates from solid and liquid substrates because of differing physical properties. As a result, PCBs in indoor air due to vapors evaporating from source areas can exhibit homologue patterns that differ from parent mixtures. Airborne PCBs have been observed to have congener patterns shifted toward the less chlorinated homologues that have higher molecular diffusivities, higher vapor pressures, and a lower tendency to sorb to solids (*e.g.*, see EH&E, 2011).

Measurements of PCBs in air collected in the Capewell building in 2013 show that current emissions are of PCBs with homolog patterns shifted towards the less chlorinated homologues. The homologue patterns of three relevant samples are depicted in Figure 2, which like Figure 1, compares the sampled homologue patterns to those of the manufactured Aroclor mixtures (ATSDR, 2000).



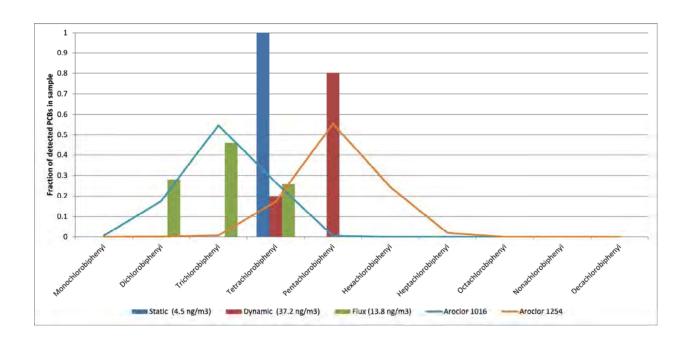


Figure 2 Profiles of PCB homologues detected in air sampling at the Capewell building. Bars plot the relative fractions of PCB homologue groups detected in each sample (normalized to a total of 1). Total concentrations of PCBs in ng/m³ are indicated in parentheses in the legend.

The September 2013 sample results labeled "Static" and "Dynamic" shown in Figure 2 were indoor air samples collected in an enclosure $^2$  constructed over the C25.5 sampling area on the  $^{2nd}$  floor of the Capewell building, where the June 2013 concrete sampling survey found 160 ppm and 320 ppm of Aroclor 1254 in 0-1" and 1-2" depths, respectively. No effort was made to clear the floors of the extensive dust and debris prior to sampling. The "Static" sample was collected under still air conditions, while the "Dynamic" sample was collected while a fan was blowing to stimulate air mixture in the enclosure.

<sup>&</sup>lt;sup>2</sup> The enclosure was constructed of polyethylene sheeting on wooden lathes, with wooden lathes nailed into the concrete floor, using the techniques used for asbestos removal enclosures. However, it was not hermetically sealed, having small potential leaks at the floor line and at the electrical power entry point.



Only the tetrachlorobiphenyl group was detected in the "Static" sample, though the low level detected ( $4.5~\text{ng/m}^3$ ) was of the same order of magnitude as the analytical detection limit ( $1.7~\text{ng/m}^3$ ), and thus other homologues may have been present at undetectable levels. Even so, a peak in the tetrachlorobiphenyl range suggests a shift from the Aroclor 1254 profile toward less chlorinated homologues, and hence a greater resemblance to the Aroclor 1016 mixture that has its peak prevalence within the tetrachlorobiphenyl group. In contrast, the "Dynamic" sample detected a higher overall level of PCBs ( $37.2~\text{ng/m}^3$ ) with a peak in the pentachlorobiphenyl homologue group, indicative of the Aroclor 1254 parent material.

Both the higher concentration and resemblance to Aroclor 1254 suggest contamination of the air sample by dust re-suspended by the fan that operated within the enclosure during the "Dynamic" sampling. Since dust and debris within the Capewell building will be removed during renovation, the "Dynamic" sample is not expected to reflect future conditions, and the potential encapsulation of the floor would prevent any generation of dust from the contaminated concrete surface.

The sample labeled "Flux" shows the homologue pattern measured in October 2013 in samples collected with a flux chamber placed on a HEPA vacuumed portion of the H30 sampling areas of the second floor of the Capewell building, where the June 2013 concrete sampling survey found 140 ppm and 360 ppm of Aroclor 1254 in 0-1" and 1-2" depths, respectively. The flux chamber experiment was specifically designed to measure the rate of PCB volatilization off the concrete floor. Only the di-, tri, and tetrachlorobiphenyl groups were detected in the flux sample. The peak in the trichlorobiphenyl homologue group suggests an effective profile similar to that of Aroclor 1016.

The flux chamber measurement is viewed as a valuable indicator of the rate at which PCBs could volatilize from the exposed contaminated concrete floors of the Capewell building. As described, an attempt was made to place the flux chamber over one of the more contaminated areas of concrete floor. Variability can be expected, however, and there is no guarantee that the highest flux rate was measured.

# **Indoor Air Concentration Modeling**

## **Unmitigated Conditions**

Knowledge of the PCB volatilization flux from the Capewell building floors provides the ability to estimate the likely concentrations of PCBs in indoor air within the residential space if it were reused without any measures to mitigate potential PCB volatilization. The concentration of PCBs in indoor air can be estimated as the flux into a room from volatilization divided by the volumetric flow of fresh air through the space:



$$C_{room} = \frac{F_{floor}A_{floor}}{V_{room}R_{change}} = \frac{F_{floor}A_{floor}}{A_{floor}h_{room}R_{change}} = \frac{F_{floor}}{h_{room}R_{change}}$$

where

 $C_{room}$  is the PCBs concentration in room (indoor) air (ng/m<sup>3</sup>);

 $F_{floor}$  is the flux rate of PCBs volatilizing from the floor (ng/m<sup>2</sup>-hr);

 $A_{floor}$  is floor area (m<sup>2</sup>);  $V_{room}$  is room volume (m<sup>3</sup>);  $h_{room}$  is room height (m); and

 $R_{change}$  is the air exchange (or turnover) rate of the air volume of the room (per hr).

Current renovation plans for a typical two bedroom unit call for a fresh air supply of 40 cfm for a 1000 ft<sup>2</sup> floor area with 8 ft ( $h_{room}$  = 2.44 m) ceilings.<sup>3</sup> These parameters correspond to an air exchange rate ( $R_{change}$ ) of 0.3 per hour.

The PCB flux measured in the flux chamber, subject to uncertainties and potential adjustments (as discussed below), provides an estimate of the worst-case indoor air concentration. The PCB flux  $F_{floor}$  measured from the uncovered floor in one of the most contaminated areas was 31.9 ng/m²-hr. Combined with the anticipated parameters for a two bedroom unit (described in the previous paragraph), a residential unit constructed with no mitigation measures for the floors would be expected to have an indoor air concentration of 44 ng/m³ of PCBs.

This measurement was taken at a temperature of about 10°C, but based on the modeling described in the Appendix the effect of temperature should be small.

#### **Mitigated Conditions**

Building reuse design that includes encapsulation of the floor could significantly reduce the potential PCB flux to indoor air. The modeling results included in the appendix indicate that at steady state a layer of additional concrete 1" thick would result in total steady state PCB air concentrations lower than about  $30 \text{ ng/m}^3$ ; but the steady state would take centuries to achieve. In the first 100 years, the air concentration would not exceed  $3.5 \text{ ng/m}^3$ , and would probably be lower if the concrete was chosen to have low permeability.

After a very long period of time, the homologue profile of PCB emissions with concrete encapsulation would ultimately resemble Aroclor 1254. However, for a 1" concrete layer, the

<sup>&</sup>lt;sup>3</sup> The height between the Capewell building's concrete floors is much greater than 8 feet. Renovation plans call for partial mezzanines to be constructed between the existing floors in some units. The indoor air model is conservatively designed to estimate concentrations in rooms under mezzanines built over the contaminated areas.



congener profile would be shifted almost entirely to lower homologues, with less chlorination than Aroclor 1016 for the first two centuries.

#### Derivation of an Acceptable Level of PCBs in Indoor Air for the Capewell Building

An acceptable PCB concentration in residential indoor air was derived using U.S. EPA (EPA) risk assessment methods. The methodology used in the derivation of Public Health Levels (PHLs) for indoor air quality in schools (U.S. EPA, 2009) has been adapted for residential exposure and site-specific conditions. As PHLs only consider non-cancer health risks, the calculation is supplemented by an estimate of incremental cancer risk.

#### Non-Cancer Risk

The premise underlying non-cancer risk calculations is that the total exposure to PCBs must not exceed the safe, or acceptable, level. Total exposure includes both background exposure and the additional exposure that could be allotted to the Capewell building. As such, it is required that:

Allowable incremental exposure + Background exposure ≤ Safe level of exposure

Following standard EPA risk assessment guidance, the safe level of exposure is characterized by the EPA's Reference Dose ( $R_{fD}$ ). There are two choices for reference doses, as the EPA has derived values for both Aroclor 1016 and 1254 PCB mixtures (EPA, 1997). As described by the EPA, less chlorinated PCB mixtures such as Aroclor 1016 are less toxic than more heavily chlorinated PCB mixtures such as Aroclor 1254.

The mix of PCBs released to indoor air from residual PCB contamination present in the floors of the Capewell building is expected to be more heavily weighted towards the lower chlorinated fractions than the floor contamination because of the lower vapor pressure of the higher-chlorinated PCBs. In a similar situation, PCB homologue sampling at the Estabrook School in Lexington, MA, found a PCB distribution in indoor air more closely resembling Aroclor 1016 than Aroclor 1254 (EH&E, 2011).

Data collected at the Capewell building support a similar determination. Of greatest relevance is the result of the flux chamber test, which identified the di- to tetra-chlorinated homologue groups as volatilizing from the concrete surface (Pace, 2013c). Additionally, although homologue patterns in samples of the contaminated concrete indicate Aroclor 1254 (Pace, 2013b), only the tetra-chlorinated biphenyl group was detected in quiescent indoor air sampling (representative of a less chlorinated mixture such as Aroclor 1016) (Pace, 2013a). Based on these considerations, the  $R_{fD}$  for Aroclor 1016 is used here to evaluate potential health risks due to PCB emissions that could be released from the floors.



As demonstrated by EPA (2009), the dominant sources of background exposure to PCBs are dietary ingestion and inhalation (as PCBs are present ubiquitously at low levels in air). The background dietary exposure estimates that EPA used to derive PHLs are outdated, as environmental concentrations of PCBs in general and concentrations in foods in particular have decreased. Updated estimates of background dietary exposure were derived from the latest data available in the U.S. Food and Drug Administration's (FDA) Total Diet Study (TDS). In 2004 and 2005, PCBs were detected in only three of the numerous foods analyzed as part of the TDS market basket surveys. Table 1 summarizes the concentrations of PCBs reported in the TDS, as well as the average ingestion rates of those foods (as compiled in the TDS). Dietary exposure, which varies by age and sex, is of the order of 1 ng/kg-d across various age groups.

Barring attenuation, PCB concentrations in outdoor air reflect the minimum level of PCBs present in indoor air. EPA (2009) assumes a background concentration of  $0.5 \text{ ng/m}^3$  in outdoor air. This value is used to estimate background inhalation exposure, although concentrations have likely decreased as the value is also based on older data.

## Applicability to Capewell

Consistent with the approach described in the preceding section, the formula used to estimate total exposure to PCBs is:4

$$e_{total} = e_{diet} + \frac{I_r(C_{Capewell} + C_{outdoor})}{B_w}$$

where

 $e_{total}$  is total exposure to PCBs (per unit body weight, in ng/kg-d);

 $e_{diet}$  is background dietary exposure to PCBs (ng/kg-d);

 $I_r$  is daily inhalation rate (m<sup>3</sup>/d);

 $B_w$  is body weight (kg);

 $C_{outdoor}$  is the background concentration of PCBs in outdoor air (ng/m<sup>3</sup>); and  $C_{Capewell}$  is the PCB concentration in indoor air due to volatilization (ng/m<sup>3</sup>).

Equating total exposure to the allowable reference dose, the equation can be rearranged and solved to yield an acceptable target level of PCBs in indoor air due to potential volatilization from contaminated areas of the flooring:

$$C_{Capewell} = \frac{B_w}{I_r} (R_{fD} - e_{diet}) - C_{outdoor}$$

<sup>&</sup>lt;sup>4</sup> Implied in the exposure equation is the assumption of a relative absorption fraction of unity for the inhalation pathway, *i.e.*, that PCBs are absorbed at equal percentages from oral and inhalation exposure pathways.



The most restrictive value for  $C_{Capewell}$  occurs when evaluating the calculation for the young (1-2 year old child) because this age range has the lowest bodyweight to inhalation ratio. Using the following values:

```
B_w 11.4 kg (EPA, 2009);

I_r 8 m³/d (EPA, 2009);

R_{fD} 70 ng/kg-d (Aroclor 1016) (EPA, 2013);

E_{diet} 1.2 ng/kg-d (Table 1); and

C_{outdoor} 0.5 ng/m³;
```

results in a value of 97.5 ng/m<sup>3</sup> for  $C_{Capewell}$ , which rounds to 100 ng/m<sup>3</sup>.

Choice of the reference dose is the most important assumption included in the derivation of the acceptable target level. If the Aroclor 1254 reference dose of 20 ng/kg-d is assumed, the acceptable target level decreases to 26 ng/m<sup>3</sup>.

In summary, acceptable non-cancer risk levels of PCB in Capewell indoor air are 97.5 ng/m³ for Aroclor 1016 and 26 ng/m³ for Aroclor 1254.

## **Characterization of Potential Risks**

#### Non-Cancer Risk

The modeled concentration of 44 ng/m³ of PCBs in Capewell indoor air based on the measured flux (derived above under Indoor Air Concentration Modeling) is less than half of the site-specific Capewell target concentration of 100 ng/m³, which indicates that the Capewell building could be redeveloped for safe residential habitation without remediation or encapsulation of the floors.

Adding an inch of clean concrete as an encapsulating leveling layer is predicted by model to substantially reduce the PCB flux and keep indoor air concentrations below 10 ng/m³ for hundreds of years. Modeling does suggest that, after considerable time, the PCB homologue pattern in indoor air could shift back toward resembling Arochlor 1254. If this happens, the anticipated indoor air concentration over a thousand years in the future could exceed an Arochlor 1254-based acceptable target level of 26 ng/m³ (derived above).

#### **Incremental Cancer Risk**

Acceptable target concentrations are based on non-cancer health risks. PCBs are suspected to cause cancer in humans, and thus it is appropriate to examine incremental risks of cancer for a future resident of the Capewell building. Incremental cancer risk is estimated as the product of the lifetime average concentration of PCBs in air and the unit risk factor. For an indoor air concentration in the Capewell building equal to  $44 \text{ ng/m}^3$  (estimated from the measured flux, with



no encapsulation), the lifetime average concentration is the PCBs target concentration  $C_{Capewell}$  scaled by the fraction of a lifetime spent in the Capewell building (which will be developed as rental units). The formula is:

Incremental Cancer Risk = 
$$C_{Capewell} \frac{T_{exp}}{T_{life}} U_R$$

where

 $C_{Capewell}$  is the modeled PCB indoor air concentration of 44 ng/m³ (= 0.044  $\mu$ g/m³);  $U_R$  is the unit risk factor, designed to estimate lifetime excess cancer risk (m³/ $\mu$ g);

 $T_{exp}$  is the number of years a person (renter) is exposed to PCBs in air (years); and is the average human lifetime of 70 years assumed in the unit risk derivation.

EPA (1997) provides a unit risk factor of 0.0001 m³/μg for evaluating incremental cancer risk from exposure to vapor-phase PCBs. The 95<sup>th</sup> percentile tenure of an individual renter (EPA, 2011) is 8 years. Using these values, the estimate of incremental cancer risk associated with the target PCB concentration  $C_{Capewell}$  is  $5\times10^{-7}$ , or 0.5 in a million. Continuous exposure to a PCB concentration of 44 ng/m³ for a 30 year period (the default in risk assessments for home owners as a high-end length of stay in a single residence) results in an incremental cancer risk of  $2\times10^{-6}$ , or 2 in a million. The effect of concrete encapsulation would be to reduce these levels by more than 10-fold over the next 50 years.

People other than residents may be exposed to Capewell building PCBs, but periods of exposure are likely to be shorter. Capewell construction worker exposure duration will be significantly less than potential occupants, and hazardous waste-trained workers will be required to be used until the encapsulant layer has been installed. It is possible that future custodians may have longer tenures than typical residents, but custodians will not be present in the building full-time, and hence will receive less exposure.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> It is possible that a custodian may also be a resident, but in that case is already included in the statistical measures for residential tenure.



### **Conclusions**

The volatilization rate of PCBs from the Capewell building floors, as measured using the flux chamber, is predicted to produce PCB indoor air concentrations more than 2-fold lower than risk-based target levels designed to protect the health of future residents. Modeling indicates that encapsulation by fresh concrete will effectively reduce and delay the flux of PCBs out of the flooring. With concrete encapsulation, the PCB concentration in indoor air is not expected to exceed  $3.5\,$  ng/m³ within  $100\,$  years after application, a value about  $30\,$ -fold lower than calculated acceptable target levels.

Sincerely,

Stephen G. Zemba, Ph.D., P.E.

tephen G. Jembe

Senior Engineer CDM Smith Inc.

Edmund A.C. Crouch, Ph.D. Senior Environmental Scientist CDM Smith Inc.

Edmund Crond



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Pace (2013b). Laboratory report prepared by Pace Analytical Services for Environmental Partners, dated October 23, 2013.

Pace (2013c). Laboratory report prepared by Pace Analytical Services for Environmental Partners, dated October 23, 2013.



Table 1 Dietary estimates of exposure to PCBs based on data from the U.S. Food and Drug Administration's Total Diet Study (FDA, 2013)

Food	Measured PCB concentrations in food A		Food consumption rates (g/d) By sex ( <b>M</b> ale/ <b>F</b> emale) and age (years) <sup>B</sup>													
Food	#	PCB Level (mg/kg)	M/F 6-11 mos	M/F 2	M/F 6	M/F 10	F 14-16	M 14-16	F 25-30	M 25-30	F 40-45	M 40-45	F 60-65	M 60-65	F 70	M 70
Lamb chop, pan-cooked w/ oil	1	0.004	0	0.08	0.1	0.59	0	1.11	0.46	1.55	0.46	0	0.17	0.17	0.46	0.31
Salmon, steaks/fillets, baked	8	0.01175 <sup>c</sup>	0.11	0.84	1.29	1.12	1.98	0.96	1.94	2.41	2.59	2.59	5.84	5.58	4.44	6.47
Catfish, pan-cooked w/ oil	1	0.008	0.14	0.71	0.98	1.29	1.97	3.47	4.13	1.78	3.6	4.73	4.47	6.95	3.85	3.69
Body Weight (kg) <sup>D</sup>		9.4	13.5	22.95	39.3	61.1	68.3	71.1	83.4	76.5	89.1	74.9	87.1	74.9	87.1	
Dietary Exposure Rate (ng/kg-d)		0.26	1.18	1.02	0.66	0.64	0.64	0.81	0.58	0.80	0.77	1.40	1.40	1.13	1.23	

Notes: A Wet-weight concentrations in food measured in 2004 and 2005 sampling (FDA, 2013)

B Food consumption based on the Total Diet Study 2003 food list (FDA, 2013)

C Range of detected concentrations is 0.004 - 0.026 mg/kg

D EPA (2011)



# **APPENDIX** Evaluation of flux from concrete

# Physical transport parameters for PCB homologs

Movement of PCBs through the concrete at the Capewell building will be primarily by diffusion, and will be different for each PCB congener since vapor pressures and diffusion coefficients differ for each congener. Estimation of PCB transport should ideally be performed using individual congener data; however, while there are slight differences in these transport parameters due to the position of the chlorine atoms on the phenyl rings, the major variation is with chlorine number, so that homolog averages are adequate for the approximate calculations performed in this appendix. Li *et al.* (2003) have evaluated available experimental data and provide the following correlations for octanol-air coefficient  $K_{OA}$  and (sub-cooled liquid) vapor pressure  $P_L$  for the PCB homologs at 25°C:

$$\log_{10}(P_L/Pa) = -0.016 \times M + 2.8$$
$$\log_{10}(K_{OA}) = 0.016 \times M + 3.7$$

where *M* is the molar mass. Temperature variation of these values can be taken into account using

$$P_L(T) = P_L(T_0) \exp\left(-\frac{\Delta U_A + RT_0}{R} \left(\frac{1}{T} - \frac{1}{T_0}\right)\right)$$

$$K_{OA}(T) = K_{OA}(T_0) \exp\left(-\frac{\Delta U_{OA}}{R} \left(\frac{1}{T} - \frac{1}{T_0}\right)\right)$$

with

 $T_0 = 298.15 \text{ K } (25^{\circ}\text{C})$ 

T = Absolute temperature at which the property is required

R = The gas constant, 8.3145E-3 kJ/(mol K)

and the following correlations for  $\Delta U_A$  and  $\Delta U_{OA}$ 

$$\Delta U_A/kJ/mol = 0.122 \times M + 42.6$$
  
 $\Delta U_{OA}/kJ/mol = -0.10 \times M - 52.7$ 

Guo *et al.* (2012) have obtained rough estimates for the diffusivities and partition coefficients of a set of PCB congeners in thin slabs of Quikrete® prepared in the laboratory, using the assumption that these parameters vary between congeners according to:



$$\frac{K_{CA}}{K_{CAS}} = \left(\frac{P_S}{P}\right)^{\alpha}$$

$$\frac{D}{D_S} = \left(\frac{M_S}{M}\right)^{6.5}$$

where

 $K_{CA}$  is the concrete/air partition coefficient for a congener with vapor pressure

 $K_{CAS}$  is the concrete/air partition coefficient for a standard congener with vapor pressure

 $P_{S}$ 

*D* is the diffusivity for a congener with molar mass *M*, and

 $D_S$  is the diffusivity for a standard congener with molar mass  $M_S$ .

Guo *et al.* (2012) used PCB 52 (2,2',5,5'-tetrachlorobiphenyl) as their standard congener, and obtained three rough estimates (from Table 6.5 of Guo *et al.*, 2012, given separately here because the uncertainties for the values are correlated):

D <sub>S</sub> / m <sup>2</sup> /h	K <sub>CAS</sub>	α
2.99E-11	2.38E+07	0.554
2.74E-11	2.36E+07	0.513
3.21E-11	1.59E+07	0.565

In the calculations that follow, these three estimates are used separately to estimate the required diffusion coefficients and concrete/air partition coefficients under the require conditions, then those values are averaged for use in subsequent calculations.

Guo et al. (2012) measured these at a fixed temperature (approximately 23°C). They pointed out that temperature variations were to be expected of the form

$$K_{CA} = a_1 T^{0.5} \exp(a_2/T)$$
  
 $D = b_1 T^{1.25} \exp(b_2/T)$ 

for some constants  $a_1$ ,  $a_2$ ,  $b_1$ ,  $b_2$ . However, for this analysis it was assumed that the temperature dependence of  $K_{CA}$  was the same as for  $K_{OA}$ , and that the primary diffusional process was diffusion through air in the concrete air pores so that the temperature dependence of D could be



approximated by the temperature variation empirically observed (Fuller *et al.*, 1966) for most vapors in air, that is:

$$D \propto T^{1.75}$$

This may in fact overestimate the variation of diffusivity with temperature, since the pores in concrete are small enough that Knudsen diffusion should dominate; and that has a  $T^{0.5}$  temperature variation. Since the variations to be expected from variations in temperature, even with the 1.75 power law, are smaller than the uncertainties of the calculations, no attempt has been made to further evaluate temperature effects.

## **Current emissions**

To model current emissions, we consider a simplified model of a semi-infinite concrete slab contaminated initially (at time zero) with a fixed concentration of PCBs throughout, and will subsequently justify this model as being relevant to the situation at the Capewell building. This modeling is not expected to provide an accurate result, but may come within a small factor of measurements and provides some insight into the factors that affect emission fluxes.

Assume that the concentration of PCBs in room air above the slab is zero — this will ensure that the estimates obtained for flux are over-estimates, since any finite concentration in air will reduce the concentration gradients driving the flux. Measurements demonstrate that the PCBs are present at a concentration  $\sim 1\%$  in an oily phase within the concrete; and that oily phase has had >30 years to move by capillary action within the concrete, so it can be considered to be stationary. In these circumstances, the PCBs will move by diffusion only, so that the governing equation of motion is the diffusion equation

$$\frac{\partial C_m}{\partial t} = D \frac{\partial^2 C_m}{\partial z^2}$$

where

 $C_m$  is the measured concentration within the concrete,

z is depth into the concrete.

t is time since the initial uniform contamination, and

*D* is an effective diffusion coefficient.

The solution to this equation matching the stated boundary conditions is

$$C = C_m \operatorname{erf}\left(\frac{z}{\sqrt{4Dt}}\right)$$



so that the flux out of the surface at time *t* is

$$\sqrt{\frac{D}{4t}}$$

and the total amount emitted per unit area by time t is

$$\sqrt{Dt}$$

We assume that initially oil containing about 1% Aroclor 1254 was spilled on the floor, and soaked into the concrete to an initial contamination level of about 1000 ppm of oil in the concrete, about 30 years ago. The presence of the oil modifies the effective diffusion coefficient from that measured in plain concrete by Guo et al. (2012), by reducing the concentration of PCBs in the air pores in the concrete (so reducing the concentration gradient). To a first approximation, the level of oil involved is small compared with the (connected) pore space in the concrete, so does not affect the fractional (connected) pore volume of air. In such circumstances, if the oil mass fraction in the concrete is x (small compared with the total connected pore space fraction) the concentration in pore air spaces is, to a good approximation, reduced by a factor

$$1 + x \frac{\rho_C}{\rho_O} \frac{K_{OA}}{K_{CA}}$$

at fixed total PCB fraction, where  $\rho_C$ ,  $\rho_0$  are the densities of the concrete (about 2.2 g/cm<sup>3</sup>) and oil (about 0.9 g/cm<sup>3</sup>). Since the effective diffusivity is primarily due to air diffusion, it is reduced by the same factor by the addition of oil. At 1000 ppm oil, this factor varies from 1.006 for monochlorobiphenyls to 2.18 for decachlorobiphenyls.

For 1000 ppm oil in the concrete, this calculation applied to 10 ppm Aroclor 1254 initially in the concrete, and using the homolog distribution of Lot G4 for Aroclor 1254 (as given in ATSDR, 2000, Table 4-4), gives the flux, cumulative flux, depletion depths at 30 years after the initial condition, and room air concentration (assuming 8 ft. ceiling and 0.3 air changes/hour) as follows:



Homologue	Flux (µg/m²-h)	Cumulative flux (μg/m²)	Depletion depth (mm)	Room air concentration ng/m³
Monochlorobiphenyl	0.00E+00	0.00E+00		0.0
Dichlorobiphenyl	6.73E-04	3.53E+02	6.72	0.9
Trichlorobiphenyl	2.20E-03	1.16E+03	4.19	3.0
Tetrachlorobiphenyl	1.18E-02	6.22E+03	2.77	16.2
Pentachlorobiphenyl	4.69E-02	2.46E+04	1.90	64.1
Hexachlorobiphenyl	1.50E-02	7.87E+03	1.34	20.5
Heptachlorobiphenyl	1.06E-03	5.59E+02	0.96	1.5
Octachlorobiphenyl	1.14E-05	6.02E+00	0.69	0.0
Nonachlorobiphenyl	8.09E-06	4.25E+00	0.48	0.0
Decachlorobiphenyl	0.00E+00	0.00E+00		0.0
Total	7.76E-02	4.08E+04		106.1

The depletion depth given here is the depth into the concrete that contains the mass of PCB corresponding to the cumulative flux; the actual concentration profile corresponds to an error function, with this depletion depth giving a scale length for the error function shape. The small depths shown justify the use of the approximation of an infinite depth of contamination, since the depletion depths are small compared with the depth of contamination.

The homologue profile of the emissions estimated by this simple model is very similar to the original Aroclor 1254 profile, with just a slight shift to the less chlorinated homologues. There is very little temperature variation, about 6% from  $10^{\circ}$ C to  $30^{\circ}$ C.

The homolog distribution obtained in this simple model does not match those observed in the flux measurement, where only tetra-, tri-, and di-chlorobiphenyls were observed, with the mode at the trichorobiphenyls. There are several possible explanations for this discrepancy, among which are:

- The 6.5 power law mass-dependence of the diffusion coefficients estimated by Guo *et al.* (2012) is incorrect. Guo et al. (2012) based this assumption on measurements in other materials and for other chemical classes. However, since there is likely to be a smooth dependence of the variation of diffusion coefficient with homolog mass, and the variation in diffusion coefficient even with a 6.5 power law does not substantially affect the estimated homolog distributions, errors in this assumption are unlikely to account for more than a small part of the discrepancy.
- The model described is over-simplified. The discussion below of future emissions shows that a layer of initially clean material placed over the contaminated floor would give a



congener profile that was initially very strongly biased towards the lower congeners. Here "initially" could be over a period of many years, depending on the material and the thickness of the initially clean layer. If the top surface of the concrete was contaminated to a depth of a few millimeters with clean oil, rather than the PCB-contaminated oil, the effect would be the same as discussed below with a clean layer of concrete. From the depletion depth estimates given above, the clean oil would have to only have to penetrate the top millimeter or two to have a profound effect on the emission rates of the higher (tetra and above) congeners.

• The flux measurement failed to measure the higher congeners. This could happen if those congeners were preferentially adsorbed to the walls of the flux chamber to such a degree that the initial run-in period (in which the flux chamber was in position prior to the start of the measurement) was insufficient to saturate the sorption capacity of the stainless steel wall.

The calculations performed here were for a concentration of 10 ppm PCBs in the concrete, and the modeling indicates that only the top few millimeters of concrete have any effect on emissions over the first few decades. Actual concentrations vary from non-detect to as high as 360 ppm, although the highest measurements have been in a depth range of 1"-2" into the concrete and the modeling demonstrates that only the concentrations in the top few millimeters will be important for emissions during the first century or so. The flux chamber measurement was taken just next to the location of the sample at location G30, which showed a measurement of 140 ppm in the first inch depth and 320 ppm in the second inch. However, two sets of four measurements in the first inch depth taken around the flux chamber (within approximately 2 feet of the outer walls of the 16" diameter chamber) varied from 13 ppm to 81 ppm, with averages of 32 ppm and 33 ppm. Clearly the concentrations can vary substantially over relatively small distances. What is required for evaluation of indoor air concentration in any room is an average over the floor of that room; and the large number of measurements within the first inch of concrete indicate an average of around 10 ppm. All the emission rate estimates in the models are directly proportional to the measured concentration in the concrete, so they scale and average in exactly the same way as those measurements.

## **Future emissions**

It is proposed to add a layer of Quikrete (possibly with appropriate additives to reduce permeability) approximately 1 inch thick to encapsulate the contaminated concrete floors. Guo et al. (2012) have tested Quikrete® apparently lacking such additives. To estimate the effect of this encapsulation method we examine a simple model in which a slab of material is placed over a

<sup>&</sup>lt;sup>6</sup> We are in communication with Guo et al., and expect to find whether the specified additive was used within the next few days.



contaminated floor. To overestimate the effect of the contamination, we assume that the contamination is sufficiently volatile to maintain an equilibrium at the interface between the encapsulant and the contaminated floor corresponding to pure Aroclor 1254 vapor in contact with the new layer of concrete at such a concentration as to give 10 ppm in the new concrete. This requires a vapor concentration of approximately 0.0014 times the saturated vapor concentration above Aroclor 1254.

The concentration in the new layer (of concrete), assuming an initial concentration of zero throughout this layer, maintenance of a concentration of 10 ppm at the interface with the contaminated slab, and a concentration of zero in the room (again to overestimate emission rates) is described as follows.

# Defining:

X	Distance into	laver from f	fixed concent	tration side.
Λ	Distance into	iayei ii biii i	ixeu concein	u auon siuc

 $\delta$  Layer thickness

D Diffusivity in layer

 $C_0$  Fixed concentration on one side of layer

t Time

Then the concentration distribution is given by:

$$C(x,t) = C_0 \frac{\delta - x}{\delta} + C_0 \sum_{n=1}^{\infty} (-1)^n \frac{2}{n\pi} \sin\left(n\pi \frac{\delta - x}{\delta}\right) \exp\left(-\frac{n^2 \pi^2 Dt}{\delta^2}\right)$$

The first term of this corresponds to the equilibrium solution, with the sum vanishing at infinite time. The emission rate through the side of the slab kept at zero concentration (at  $x = \delta$ ) is

$$D\frac{C_0}{\delta} \left( 1 + 2 \sum_{n=1}^{\infty} (-1)^n \exp\left(-\frac{n^2 \pi^2 Dt}{\delta^2}\right) \right)$$

This gives an upper bound on emission rates --- if there is contaminated room air in contact with the slab, the outer side of the slab has a concentration higher than zero, reducing gradients and hence fluxes. The equilibrium flux is given by the multiplier — the term in brackets simply modifies the equilibrium steady-state flux.

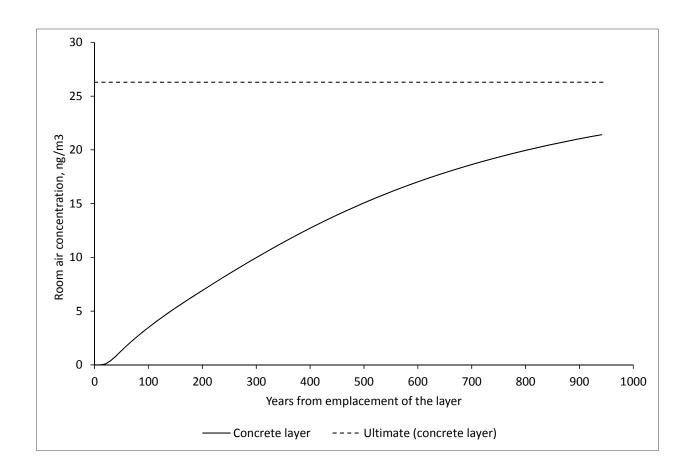
Inserting the values already discussed for the properties of concrete gives the following estimates for equilibrium flux and air concentration (assuming 8 ft. ceiling and 0.3 air changes/hour):



Homolog	Flux μg/m²-h	Room Air concentration ng/m³
Monochlorobiphenyl	0.00E+00	0.0
Dichlorobiphenyl	2.28E-03	3.1
Trichlorobiphenyl	2.61E-03	3.6
Tetrachlorobiphenyl	5.20E-03	7.1
Pentachlorobiphenyl	8.06E-03	11.0
Hexachlorobiphenyl	1.05E-03	1.4
Heptachlorobiphenyl	3.22E-05	0.04
Octachlorobiphenyl	1.56E-07	0.0002
Nonachlorobiphenyl	5.27E-08	0.0
Decachlorobiphenyl	0.00E+00	0.0
Total	1.92E-02	26.3

However, these equilibrium values are highly theoretical, since they would not be achieved for centuries. The time course of total room air concentration is illustrated in the following figure:





As can be seen, the concrete layer takes centuries to reach equilibrium. The homologue profiles for the flux and room air concentration are also shifted substantially to the lower homologs during the earlier part of the equilibration time.



**Cleanup Plan for the Site** 

## Cleanup Plan for the Site

Evaluation of cleanup options for the site indicate that risk-based disposal in place is the most feasible option for applicability to the PCB contamination of concrete present on concrete floors at the former Capewell Manufacturing building. Site redevelopment design plans call for placement of a one-inch layer of self-levelling concrete to cover each of the existing building floors.

The concrete will serve the dual purposes of encapsulating underlying PCB contaminated concrete and establishing a new, uniformly level interior floor surface for intended residential use. A one-inch encapsulating concrete layer is predicted by the conceptual model described above to substantially reduce PCB flux and to keep PCB concentrations below 3.5 ng/m³ for over 100 years.

An indoor air sampling and analysis program will be implemented to monitor PCB concentrations in each of the planned residences. One air sample will be collected from every residential unit after construction is complete and before occupancy is initiated. Samples will be analyzed by EPA Method TO-10. Follow-up samples will be collected at five year intervals for the following 30 years from residential units located above contaminated concrete and results will be reported to EPA and Connecticut Department of Public Health. The concrete encapsulant will be inspected annually, and repairs such as crack sealant or coating patches will be made as necessary.

A deed notation will be made to document the use of concrete as an encapsulant and to state restrictions against disruption of the material. Financial assurance to ensure capacity to maintain the proposed air sampling, analysis, reporting, and encapsulant maintenance programs will be implemented in a format acceptable to the regulatory agency determined to be appropriate to accept the instrument.



**Encapsulant Identification and Discussion of Effectiveness** 

## Encapsulant Identification and Discussion of Effectiveness

Diffusion modeling indicated that placement of a one-inch thick layer of concrete would retard PCB volatilization into indoor air. The model was based on hypothetical contamination of the floor sufficient to maintain forever a concentration of 10 ppm at the interface with the concrete floor in a one-inch thick layer of Quikcrete concrete (as tested by EPA), with a homolog distribution in equilibrium with Aroclor 1254 vapor. Since the floor contamination could not maintain a fixed concentration at the interface forever, this approach was considered conservative.

The PCB concentration was chosen to match the average of about 10 ppm Aroclor 1254 measured closest to the surface of second and third floor locations in the former Capewell manufacturing building. The model output showed that vapor transmission into indoor air would be negligible (resulting in an air concentration below 0.1 ng/m³) for 20 years, and that steady state would not be reached for over 100 years. More importantly, the model output showed that at the average rental apartment dwelling period, 8 years, and the extended duration period of risk assessment calculation, 30 years, air concentrations of less than 0.001 and 0.4 ng/m³ were estimated, respectively, with homolog profiles even less chlorinated than Aroclor 1016.

The very-long-term steady-state concentration was estimated at 26 ng/m³, but this would only be approached after several centuries (1,200 years to reach 90% of steady state), with the homolog distribution remaining less chlorinated than Aroclor 1016 for the first century.

Site redevelopment design plans call for placement of a one-inch layer of self-levelling Quikrete to cover each of the existing building floors. The concrete will serve the dual purposes of encapsulating underlying PCB contaminated concrete and establishing a new, uniformly level interior floor surface for intended residential use. Technical data and MSDS for Quikrete are attached.

# QUIKRETE® Guide Specification

# **Self-Leveling Floor Resurfacer-Fast-Setting (No. 1249-51)**

Portland Cement Based, Self-Leveling, Self-Finishing Floor Topping and Underlayment

# Section 03 53 00 – Concrete Topping Section 03 54 16 – Hydraulic Cement Underlayment

## PART 1 – GENERAL

#### 1.10 SUMMARY

- A. Provide Self-Leveling Portland Cement and Underlayment for placement over existing concrete substrate.
- B. Related Sections: Other specification sections which relate directly to the work of this section include the following:

Section 030100 – Maintenance of Concrete

Section 035300 - Concrete Topping

## 1.20 **SUBMITTALS**

A. Product Data: Submit manufacturer's product data and installation for each material and product used. Include manufacturer's Material Safety Data Sheets.

## 1.30 **REFERENCES**

- A. ASTM C 109: Compressive Strength of Hydraulic Mortars.
- B. ASTM C 191: Setting Time of Hydraulic Cement.
- C. ASTM C 1059: Standard Specifications for Latex Agents for Bonding Fresh to Hardened Concrete.

## 1.40 **QUALITY ASSURANCE**

- A. Manufacturer's Qualifications: The manufacturer shall be a company with at least fifteen years experience and regularly engaged in the manufacturer and marketing of products specified herein.
- B. Installer's Qualifications: The contractor shall be qualified to perform the work specified by reason of experience.

# 1.50 **DELIVERY, STORAGE AND HANDLING**

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.
- B. Store products in a dry area. Protect from direct sunlight.
- C. Handle products in accordance with manufacturer's printed recommendations.

## PART 2 – **PRODUCTS**

## 2.10 MATERIALS

A. Self-leveling, Portland Cement Based, Self Finishing, One Component Underlayment . Comply with the following:

- 1. Manufacturer: Self-Leveling Floor Resurfacer Fast-Setting (No. 1249-51) as manufactured by the QUIKRETE® Companies, One Securities Centre, 3490 Piedmont Road, NE, Suite 1300, Atlanta, GA 30305; telephone (404) 634-9100.
- 2. Performance and Physical Properties at 73 degrees F and 50 percent relative humidity:
  - A. Working time, ASTM C 191: 20-40 minutes
  - B. Compressive Strength, ASTM C 109 Modified: 1800 psi (12.4 MPa) @ 24 hours, 4000 psi (27.6 MPa) @ 7 days, 5500 psi (37.9 MPa) @ 28 days
  - C. Slant Shear Bond Strength, ASTM C 1059: Exceeds 1250 psi (8.6 MPa) @ 28 days
  - D. Walk On Time: 2-4 hours maximum
  - E. Tensile Bond Strength, ASTM C 1059: 300 psi (2.1 MPa) @ 7 days, 400 psi (2.8 MPa) @ 28 days

#### PART 3 – EXECUTION

## 3.10 **EXAMINATION**

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas landscaping from contact due to mixing and handling of materials.

## 3.20 **SURFACE PREPARATION:**

Comply with manufacturer's printed instructions and the following:

- A. Clean the concrete slab or floor of all dirt, dust, oil, grease, paint and water-soluble material.
- B. Fill any deep holes or depressions to existing floor elevation with QUIKRETE® FastSet<sup>TM</sup> Non-Shrink Grout (No. 1585-09), comply with manufacturer's printed instructions. Allow filled areas to cure before pouring Floor Resurfacer.
- C. Seal all perimeter openings to prevent leakage. These dams should be able to retain resurfacer material at a height greater than the finished floor elevation.
- D. Prime the clean dry floor surface with QUIKRETE® Bonding Adhesive (No. 9902) in accordance with manufacturer's instructions. Dilute 1 part Bonding Adhesive with 2 parts clean water. Blend Bonding Adhesive completely before using.
- E. Apply with broom, roller or garden sprayer to saturate the surface.

## 3.30 **MIXING:**

Comply with manufacturer's printed instructions and the following:

A. Material should be mechanically mixed for a minimum of 4 minutes at 250-500 RPM's using a five-gallon (19L) bucket with a ½" (12mm) drill and paddle mixer. For large grouting applications, a standard mortar mixer may be used.

- B. Add approximately 4.5 quarts (4.26L) of clean mixing water per 50 lb (22.7 kg) bag.
- C. Slowly pour the powder into the water and mix to a lump free consistency. If more water is needed, add small amounts at a time and continue to mix until the desired consistency is achieved.
- D. Use minimum amount of water necessary to achieve the desired flow characteristics. Excessive water can cause separation, reduction of strength and shrinkage of cured resurfacer.

#### 3.40 **APPLICATION:**

Comply with manufacturer's printed instructions and the following:

- A. Place the resurfacer by pouring directly from the mixing container. Placing should be done as one continuous operation.
- B. Pour in continuous strips about 1 foot (0.30 m) in width across the narrow section of floor.
- C. QUIKRETE® Self-Leveling Floor Resurfacer can be installed from 1" (25 mm) thick to a feather edge in one application.
- D. Protect the leveled floor until resurfacer has developed sufficient strength. Fast-Setting Self-Leveling Floor Resurfacer may be walked on within 2 4 hours, depending on conditions, and finished flooring may be applied in 24 hours depending on conditions.
- E. Do not apply if temperatures are below 50°F (10°C) or are expected to go below 40° (4°C) within a 24 hour period. Use cold water in hot weather or hot water in cold weather to achieve desired grout temperature.

## 3.50 **CURING**

A. Areas to receive Self-Leveling Floor resurfacer should be protected from the sun or wind which can cause a rapid moisture loss leading to incomplete hydration and potential cracking.

## 3.60 **CLEANING**

A. Remove excess material before material cures. If material has cured, remove using mechanical methods that will not damage substrate.

# **END OF SECTION**

HEALTH

FLAMMABILITY

PERSONAL PROTECTION

YSICAL HAZARD

and Dust Respirator

Safety Glasses, Gloves

0

0

#### **CEMENT & CONCRETE PRODUCTS™**

# SELF-LEVELING FLOOR RESURFACERS

MATERIAL SAFETY DATA SHEET (Complies with OSHA 29 CFR 1910.1200)

# **SECTION I: PRODUCT IDENTIFICATION**

The QUIKRETE® Companies
One Securities Centre

**QUIKRETE® Product Name** 

SELF-LEVELING FLOOR RESURFACER

Emergency Telephone Number

(770) 216-9580

3490 Piedmont Road, Suite 1300

Information Telephone Number

(770) 216-9580

MSDS D5

Revision: May-12

Atlanta, GA 30329

Product #

1249-50

FAST-SETTING SELF-LEVELING FLOOR RESURFACER

1249-51

PRODUCT USE: PORTLAND CEMENT-BASED SELF-LEVELING FLOOR RESURFACERS



Route(s) of Entry: Inhalation, Skin, Ingestion

**Acute Exposure:** Product becomes alkaline when exposed to moisture. Exposure can dry the skin, cause alkali burns and affect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.

**Chronic Exposure:** Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.

Carcinogenicity: Since Portland cement and blended cements are manufactured from raw materials mined from the earth (limestone, marl, sand, shale, etc.) and process heat is provided by burning fossil fuels, trace, but detectable, amounts of naturally occurring, and possibly harmful, elements may be found during chemical analysis. Under ASTM standards, Portland cement may contain 0.75 % insoluble residue. A fraction of these residues may be free crystalline silica. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and possibly cancer. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Carcinogenicity Listings: NTP: Known carcinogen

OSHA: Not listed as a carcinogen

IARC Monographs: Group 1 Carcinogen



# California Proposition 65: Known carcinogen

NTP: The National Toxicology Program, in its "Ninth Report on Carcinogens" (released May 15, 2000) concluded that "Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is *known to be a human carcinogen*, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown *et al.*, 1997; Hind *et al.*, 1997)

<u>IARC:</u> The International Agency for Research on Cancer ("IARC") concluded that there was "sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "sufficient evidence in experimental animals for the carcinogenicity of quartz or cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see <u>IARC Monographs on the Evaluation of carcinogenic Risks to Humans</u>, Volume 68, "Silica, Some Silicates." (1997)

**Signs and Symptoms of Exposure:** Symptoms of excessive exposure to the dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

**Medical Conditions Generally Aggravated by Exposure:** Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, Tuberculosis and possibly increased incidence of kidney lesions.

**Chronic Exposure:** Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. (May contain trace (<0.05 %) amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals)

**Medical Conditions Generally Aggravated by Exposure:** Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure.

# SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components CAS No.  $mg/M^3$   $mg/M^3$   $mg/M^3$  Silica Sand, crystalline PEL (OSHA) TLV (ACGIH)  $mg/M^3$  0.05 (respirable)  $mg/M^3$ 



Portland Cement	65997-15-1	5	5
May Contain one or more of the following ingre	edients:	_	
Amorphous Silica	07631-86-9	80 mg/M <sup>3</sup>	10
		% SiO <sub>2</sub>	
Calcium Sulfate	10101-41-4 or	5	5
	13397-24-5		
Lime	01305-62-0	5	5
Fly Ash	68131-74-8	5	5
Calcium Aluminate Cement	65997-16-2	5	5
Clay	01332-58-7	5	5
Pulverized Limestone	01317-65-3	5	5

**Other Limits:** National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration=0.05 mg/M<sup>3</sup> (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica

## **SECTION IV – First Aid Measures**

**Eyes:** Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

**Skin:** Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.

**Inhalation:** Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalations of large amounts of Portland cement require immediate medical attention.

**Ingestion:** Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

## **SECTION V - FIRE AND EXPLOSION HAZARD DATA**

**Flammability:** Noncombustible and not explosive. **Auto-ignition Temperature:** Not Applicable

Flash Points: Not Applicable

## SECTION VI – ACCIDENTAL RELEASE MEASURES

If spilled, use dustless methods (vacuum) and place into covered container for disposal (if not contaminated or wet). Use adequate ventilation to keep exposure to airborne contaminants below the exposure limit.



## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Do not allow water to contact the product until time of use. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended.

## **SECTION VIII - EXPOSURE CONTROL MEASURES**

**Engineering Controls:** Local exhaust can be used, if necessary, to control airborne dust levels.

**Personal Protection:** The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

**Exposure Limits:** Consult local authorities for acceptable exposure limits

## **SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS**

**Appearance:** Gray to gray-brown colored powder.

Specific Gravity: 2.6 to 3.15 Melting Point: >2700°F

Boiling Point:>2700°FVapor Pressure:Not ApplicableVapor Density:Not ApplicableEvaporation Rate:Not ApplicableSolubility in Water:SlightOdor:Not Applicable

## **SECTION X - REACTIVITY DATA**

Stability: Stable.

**Incompatibility (Materials to Avoid):** Material when mixed with water will react with Aluminum and other alkali and alkaline earth elements liberating hydrogen gas.

Hazardous Decomposition or By-products: None

Hazardous Polymerization: Will Not Occur.

**Condition to Avoid:** Keep dry until used to preserve product utility.

# **SECTION XI – TOXICOLOGICAL INFORMATION**

Routes of Entry: Inhalation, Ingestion

**Toxicity to Animals:** 

LD50: Not Available LC50: Not Available

**Chronic Effects on Humans:** Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.



Special Remarks on Toxicity: Not Available

# SECTION XII – ECOLOGICAL INFORMATION

**Ecotoxicity:** Not Available **BOD5 and COD:** Not Available

Products of Biodegradation: Not available

Toxicity of the Products of Biodegradation: Not available

Special Remarks on the Products of Biodegradation: Not available

## **SECTION XIII – DISPOSAL CONSIDERATIONS**

**Waste Disposal Method:** The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is <u>not</u> classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302).

## **SECTION XIV – TRANSPORT INFORMATION**

**DOT/UN Shipping Name:** Non-regulated **DOT Hazard Class:** Non-regulated **Shipping Name:** Non-regulated

Non-Hazardous under U.S. DOT and TDG Regulations

## SECTION XV – OTHER REGULATORY INFORMATION

**US OSHA 29CFR 1910.1200:** Considered hazardous under this regulation and should be included in the employers hazard communication program

SARA (Title III) Sections 311 & 312: Qualifies as a hazardous substance with delayed health effects

**SARA (Title III) Section 313:** Not subject to reporting requirements **TSCA (May 1997):** All components are on the TSCA inventory list

**Federal Hazardous Substances Act**: Is a hazardous substance subject to statues promulgated under the subject act

**California Regulation: WARNING:** This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Canadian Environmental Protection Act: Not listed

**WHMIS Classification:** Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E- Corrosive Material) and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

## **SECTION XVI – OTHER INFORMATION**



**HMIS-III:** Health -0 = No significant health risk

1 = Irritation or minor reversible injury possible

2 = Temporary or minor injury possible

3 = Major injury possible unless prompt action is taken

4 = Life threatening, major or permanent damage possible

Flammability- 0 = Material will not burn

1 = Material must be preheated before ignition will occur

2 = Material must be exposed to high temperatures before ignition

3 = Material capable of ignition under normal temperatures

4 = Flammable gases or very volatile liquids; may ignite spontaneously

Physical Hazard- 0 = Material is normally stable, even under fire conditions

1 = Material normally stable but may become unstable at high temps 2 = Materials that are unstable and may undergo react at room temp

3 = Materials that may form explosive mixtures with water

4 = Materials that are readily capable of explosive water reaction

## **Abbreviations:**

**ACGIH** American Conference of Government Industrial Hygienists

**CAS** Chemical Abstract Service

**CERCLA** Comprehensive Environmental Response, Compensation & Liability Act

**CFR** Code of Federal Regulations

**CPR** Controlled Products Regulations (Canada)

DOT Department of Transportation
IARC International Agency for Research
MSHA Mine Safety and Health Administration

NIOSH National Institute for Occupational Safety and Health

NTP National Toxicity Program

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

**RCRA** Resource Conservation and Recovery Act

**SARA** Superfund Amendments and Reauthorization Act

**TLV** Threshold Limit Value **TWA** Time-weighted Average

WHMIS Workplace Hazardous Material Information System

Revision #07-01, supersedes all previous revisions.

Created: 10/25/2006

Last Updated: May 8, 2012

**NOTE:** The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.



**QA/QC Plan** 



# QA/QC Plan Indoor Air Sampling for Long Term Monitoring Former Capewell Manufacturing Building December 2013

Environmental Partners, LLC Hartford, CT

In order to monitor the quality of the results obtained in this indoor air monitoring study, quality assurance/quality control (QA/QC) techniques will be incorporated into the design of the study as an integral part of a comprehensive strategy for characterizing chemicals in air. Quality assurance (QA) is a well-defined, integrated series of management activities involving planning; implementing, documenting, assessing and reporting that assure that data are of known and documented quality. Quality Control (QC) is an integrated series of technical activities that measure whether and how well the goals established in the quality assurance component were met. Quality assurance includes quality control as one of its components to ensure that data quality objectives are met.

Quality assurance and quality control requirements will be chosen in advance based on regulatory mandates or historical practices. The EPA TO methods recommend minimum QA/QC practices which should be adequate for most applications; however, these minimum criteria will be augmented by investigative techniques for this project. The TO-10 method will be utilized for sample collection in this study.

# **Data Quality Objectives and Data Quality Indicators**

Before the sampling and analysis phase of this project begins (project scoping), data quality objectives (DQOs) will be determined for the project. The data quality objectives are closely linked to the overall purpose of the study. There is a formal data quality objective process developed by the EPA that will be used to develop a strategic plan for data collection, analysis and evaluation activities (EPA, 1988).

Data quality indicators (DQIs) will be developed during the development of the DQOs as quantitative measures of the achievement of quality objectives. The quality of sampling and analytical data obtained can then be measured and defined using various data quality indicators. The US EPA Guidance for Data Usability in Risk Assessments (EPA, 1992b) (hereafter referred to as the "Data Usability" document) suggests the acronym PARCCS to encompass the six indicators: Precision, Accuracy, Representativeness, Comparability, Completeness and Sensitivity. These indicators will be used together with data quality control measurements to define the quality of the data collected for the purpose of risk assessment. The indicators are defined below as they apply to indoor air sampling. Much of the material presented below is taken from the EPA "Data Usability" document cited above.

<u>Precision</u>: indicates the degree to which data vary due to measurement error, which is influenced by a combination of sample collection and analytical factors. This indicator answers the question, "How many times can we take a sample and get the same result?" The results do not necessarily indicate the "true" value but the results from multiple samples should be reproducible. It is a measure of variability.

In indoor air sampling, data variability resulting from sampling techniques may be evaluated by taking field duplicates or multiple air samples at a location. Analytical variability can be evaluated through the analysis of laboratory duplicates or through multiple analyses of performance evaluation samples. Analytical quality control measures used to monitor the status of this indicator include matrix spikes and matrix spike duplicates.

Precision is particularly relevant when analytical results approach the method detection limit. A measure of precision provides a level of confidence to distinguish between site and background levels of contamination.

**Accuracy:** indicates a measure of the degree to which the data collected may vary from the true value due to such factors as contamination during the sampling process and loss of sample from improper collection or handling, or analytical method bias. Analytical method bias is determined by calculating percent recovery from spiked samples and is usually expressed in terms of (high or low) bias. Accuracy can be affected by sample contamination in the field or laboratory or during storage and processing of the sample.

It is recommended that standard operating procedures be followed for sample field activities (collection, handling and decontamination). Use of field and trip blanks should be incorporated into the sampling plan. Method blanks, audit samples and calibration standards should be used to evaluate laboratory contamination. Analytical quality control measures used to monitor the status of this indicator include surrogate recovery data.

Representativeness: indicates the extent to which sampled data truly define the actual nature, extent of exposure, and concentrations of the contaminants of concern to which receptors may be exposed. This indicator answers the question, "Where do we take the samples?" in order that they may characterize the entire area of interest. Representativeness has a larger scope than precision since it has both qualitative and quantitative components.

In terms of indoor air, this indicator measures whether the data collected are representative of air concentrations which building occupants are breathing. It is recommended that a representative sampling design be used, and that additional samples be collected as required. In a building, this means that sampling should be conducted at least in one location on each floor that the receptor frequents and, if necessary, in more than one location on each floor. Samples should be taken in the residents' breathing zone and should be representative of the duration and time of day during which the resident is present in that area. It is also recommended that detailed standard operating procedures be prepared for handling field equipment.

**Comparability:** indicates whether sampling results are the same over time and space. As applied to the indoor air-sampling situation, this indicator may measure whether data sets collected on different days or different sampling locations are similar. To achieve this endpoint, it is suggested that the same sampling design and similar time periods be used across sampling episodes.

The same analytical method should also be used routinely over sampling events and laboratories to increase the likelihood that analytical results will be comparable. In addition, this indicator also measures the comparability of the results with other analytical methods, etc. Comparable data will allow for the combination of data sets for evaluation.

<u>Completeness</u>: indicates whether the sampling and analytical data collected in the study adequately characterize the range of contaminant concentrations, the list of contaminants present and the extent of contamination. It is essentially a measure of the amount of useable data resulting from data collection and analysis activities. This indicator answers the question, "Is there enough data to make a certain decision?"

In terms of indoor air sampling, this indicator addresses the appropriateness of the sampling methods to characterize the types and concentrations of contaminants present and the adequacy of the sample size.

The number of samples that should be taken is an important factor to consider when planning a sampling study. The inherent variation among sampling measurements over both time and space may influence the decision as to the appropriate number of samples that should

be taken in a sampling study. Although there are statistical techniques available for determining appropriate sample size (Sokal and Rohlf, 1981; Arkin and Colton, 1970), practical application of such information is frequently limited by resource constraints. The incorporation of replicate sampling and collocated sampling techniques into the sampling plan can address some of these variability concerns.

It is suggested that the standard operating procedures associated with the sampling methodology of choice be reviewed to determine whether the study's objectives can be met by using these methods. In addition, it should be assured that representative samples are taken in each area of concern. In a residence, for example, this can be translated to mean that at least one sample should be taken on each floor and, if the nature of the contamination indicates that there might be additional variation in the pattern of contamination in various sections or rooms on a floor, that more than one be taken on that floor. Additional sampling may be necessary to characterize concentration variations by season or with meteorological events.

Analytical problems affecting data completeness in the analysis of indoor air samples may be related to problems occurring during sampling. For example, if sample capacity is exceeded, laboratory performance may be affected, causing data to be rejected. One instance of this might be the occurrence of sample breakthrough in the case of time-weighted sampling through adsorbent media. Some samples may be rejected due to holding time violations (consult sampling method for recommended holding time). For a number of reasons, the number of samples analyzed may be fewer than originally planned either due to laboratory error, equipment failure or other analytical problems. Advanced planning in identifying critical samples and the use of alternative sampling procedures is also necessary to ensure completeness of a data set for use in evaluating exposures.

<u>Sensitivity</u>: indicates the ability of an analytical method to detect contaminants at the lower end of the range of concentrations of concern. This ability is expressed by the detection limit. It is often discussed together with a closely allied concept, that of specificity. Specificity is the ability of an analytical technique to differentiate between a certain substance and other similar chemicals.

In terms of the analysis of indoor air samples, this indicator measures the ability of a method to detect environmental levels of air contaminants. In addition, it can also be used to assess whether the method detection limit is below other crucial data endpoints such as toxicity benchmark values and indoor air background information. Such information is necessary when evaluating indoor air monitoring data in terms of potential health effects.

## **Sampling and Analytical Quality Assurance**

A Quality Assurance Project Plan (QAPP) defines the sampling and analytical quality control measures that will be used to assess the quality of the data obtained in the indoor air monitoring study. The QAPP is a critical document for any environmental data collection effort because it documents how QA/QC will be implemented for an individual project (EPA, 1998). A QAPP is meant to instill confidence in a process in advance by providing a detailed description of the planning, implementation and assessment activities. QAPPs are designed to be flexible enough to provide an essential core of quality assurance and still meet the project-specific requirements. Standard operating procedures should be used to assure consistency in the sampling and analytical procedures used and to reduce the level of error associated with data collection and analysis. Chain of custody records should also be maintained for each sample. These records establish the history and handling of each sample from collection all the way through the analytical process by generating a paper (or electronic) trail that can be used for tracking, identifying potential problems, improving quality objectives during a project, streamlining information review and identifying accountability. In addition to maintaining a chain

of custody, the location of each collected sample should be identified on a site map.

## **Sampling Quality Control**

There are several measures that should be used across the board in all indoor air sampling studies: use of replicate or collocated sampling; use of field blanks; and in the case of time- weighted sampling through adsorbent media, series sampling.

- Replicate Sampling: In order to improve the confidence in measured concentrations, it is recommended that at least one set of parallel samples (two or more samples collected simultaneously) be collected during each sampling event. These collocated samples should be taken at different flow rates if an adsorbent media is used. The replicate site should be designated at a location where upscale but not offscale values are expected so that small value differences would not be expected to yield large percentage differences. These samples should be collocated, (i.e., they should be located next to each other). According to guidance provided in the TO methods, if agreement between parallel samples is not generally within ±25%, the user should collect parallel samples on a much more frequent basis (perhaps for all sampling points). If a trend of lower apparent concentrations with increasing flow rate is observed for a set of parallel samples, one should consider using a reduced sampling rate and longer sampling interval, if possible. If this practice does not improve the reproducibility, further evaluation of the method performance for the compound of interest might be required (EPA, 1984).
- <u>Field Blanks</u>: In each sampling study, at least one clean sampling device (i.e., cartridge or canister) should accompany the samples to the field and back to the laboratory to serve as a field blank. In the case of a cartridge sampler, the cartridge is placed in the sampler but no air is sampled. In the case of a canister, the canister is taken to the field and back to the laboratory without opening it. The field blanks should not contain any target analyte at greater than its corresponding reporting limit and should not contain additional compounds with elution characteristics and mass spectral features that would interfere with identification and measurement of a method analyte. If a blank is found to be contaminated as described above and the analyte is also found in associated samples, those sample results should be "flagged" as possibly contaminated (EPA, 1999).
- Series Sampling: With cartridge sampling, a problem that must be guarded against is that of contaminant breakthrough. Breakthrough occurs when the volume at which a significant amount of a constant atmosphere of an adsorbed compound drawn through a sorbent tube desorbs and appears in the tube effluent (Hodgson, 1989). Any additional constituent that may be carried in air that is passed through the collection media "break through" the media and are lost. Since air concentration is a function of the mass of the contaminant collected per volume of air passed through the collection media, breakthrough results in an incorrect concentration estimate since volume is increasing with no accompanying rise in constituent collected. A way to evaluate whether breakthrough has occurred is to attach two (or more) cartridges in series at one of the study site sampling locations with the highest expected concentrations. If breakthrough of the first cartridge has occurred, the second cartridge will also be contaminated with the constituent of concern. Thus, backup cartridges (two cartridges in series) should be collected with each sampling event. The TO Methods state that backup cartridges should contain less than ten percent of the amount of components of interest found in the front cartridges, or be equivalent to the blank cartridge level, whichever is greater (EPA, 1984). Projected "safe" sampling volumes are discussed in the TO methods. However, the "safe" sampling volume for a particular project is best determined and validated by the laboratory doing the analysis as it can be tailored to the particular adsorbent type(s) and amount used and the target pollutant(s) of interest.

Caution should always be used during sampling not to cross-contaminate sampling media, either by human hands or by using inadequately cleaned sampling equipment. For canister samplers, in addition to the above quality control measures, additional measures should be taken to assure that cross- contamination does not occur between samples.

# **Analytical Quality Control**

Analytical systems are complex and usually involve multi-step procedures. Most analytical methods prescribe quality control measures designed to monitor the performance of an analytical system at key junctures along the analytical train. Each quality control element is designed to monitor a specific activity. There are several generic measures that should be targeted and/or implemented across the board in all analytical procedures: these include selection of appropriate method detection limit; use of blanks in the analytical process; calibration of instruments; assessment of analytical accuracy; and assessment of analytical precision.

• Method Detection Limits: Method Detection Limits (MDLs) must be determined for each analyte of interest, (including ranges of analytes as is the case with the carbon number ranges associated with the Air-Phase Petroleum Hydrocarbon (APH) method). MDLs are statistically derived numbers and are theoretically the lowest amount of an analyte that can be determined to be above background instrument noise with 99% confidence. The MDL is directly related to the instrument detection limit (IDL). The IDL defines the "best" or lowest concentration the instrument can detect and the MDL defines the best the instrument can detect by that method.

The most useful types of detection limits to investigators are the Practical Quantitation Limit (PQL), the reporting limit (RL) or the Sample Quantitation Limit (SQL). All represent the same type of information and all are derived by **multiplying the MDL by a factor of 3-5** to ensure that under daily analytical conditions, this value can be achieved.

Determination of the MDL is usually done once per year per laboratory. Typically, a set of seven samples, each containing the analyte of interest at a concentration equal to the estimated IDL is analyzed. The standard deviation of the results is calculated and this value is multiplied by 3.14 (which represents the T-value from the Student T-test at n-1 for a sample number of seven). This statistically derived number is then multiplied as discussed above. The choice of the multiplier is based on a professional judgment or management decision. However, since detection limits are statistically derived values based on standard deviation, there is uncertainty involved without verification. For this reason it is strongly suggested that the lowest instrument calibration standard always be set at the reporting limit.

- <u>Blank samples</u>: Analytical blank samples are used to monitor for the presence of non-target compounds or sample "carryover". Carryover occurs when analytes from a highly contaminated sample remain in the system (i.e., are not fully desorbed) and compounds associated with the highly contaminated sample show up in the next sample. There are different types of blanks that are used for different purposes. These include method blanks and instrument blanks. Method blanks are analyte-free matrixes that are designed to assess contamination from sample processing. Instrument blanks are designed to assess baseline drift and carry-over.
- <u>Instrument Calibration</u>: Analytical instruments must be calibrated for quantitative treatment and analysis. Calibration involves analyzing a series of standards which contain the analytes of interest at several different concentrations. Initial calibrations (ICALs) are 3-5 concentration levels of standards containing all of the analytes of interest performed at the beginning of analysis or when the continuing calibration fails. ICALs are analyzed to determine the reporting

range of the instrument for the compounds of interest. As discussed above, it is highly recommended that the lowest calibration concentration be set at the RL.

Specifications for setting the lower limit of the instrument calibration range vary among methods. For example, the APH method specifically requires that the RL be evaluated as the lowest instrument calibration standard. However, under method TO-14, the MDL is designated as the RL. In such a case, due to the uncertainty of statistically derived values, it is recommended that the lowest instrument calibration standard be run at the MDL.

Continuing calibrations (CCALs) are mid-level calibration standards containing all of the compounds of interest designed to assess the accuracy of an instrument. They are usually run on an on-going (at least daily) basis.

• <u>Assessing Precision</u>: Precision is a measure of the reproducibility of a system or how close two sample results are to each other. To determine precision, matrix spikes (MS) and matrix spike duplicates (MSD) are used. For air samples, MS and MSDs are prepared by injecting a known concentration of selected target analytes into two different sampling media of the same kind and then performing the analysis as with any other sample. The percent relative standard deviation (% RSD) is calculated for the two samples using the equation:

where x1 and x2 represent the values for the MS and MSD samples, ABS VAL (x2 - x1) represents the absolute value of the difference between these two values and xaverage represents the average of the two values. Acceptable values for % RSD are generally  $\leq 25$ .

• <u>Assessing Accuracy</u>: Accuracy is a measure of how close an unknown sample value is to the known or true value. One measure that can be taken to maintain a higher level of accuracy is to assure that samples are stored and analyzed within the required holding time (consult sampling method for recommended holding time). Exceeding recommended holding times may result in the loss of analytes of interest and therefore in results which are inaccurate.

Another quality control element used to assess accuracy is the standard reference material (SRM) which consists of the matrix of interest (in this case, air) which has been spiked with analytes at concentrations verified by the manufacturer of the SRM. The SRM is generally obtained from an external source (i.e., vendor-supplied) and is used to assess the accuracy of the preparation and analysis of the samples. The percent recovery of the spiked analytes, (% R), is used to determine accuracy and is calculated using the equation:

Typical values for acceptable % R are between 70-130.

## Sampling and Analysis Quality Control Acceptability Criteria

Criteria for the evaluation and usability of these sampling quality control measures should be identified as part of the data quality objectives process before work commences on the project. Often, sampling and analytical methods provide a discussion of acceptability criteria for these parameters as presented in the above sections. Ultimately, these criteria must be identified by the investigator for the analysis being conducted. Information from the sampling/analysis literature as well as professional judgment may also be used to identify these

criteria. To assist in this process, the investigator may use the general approach for analytical data validation and data usability contained in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846) (EPA,1997) as well as the EPA "Region 1, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses" (EPA, 1996a).

If the identified performance criteria are not within the recommended specifications for acceptability of the method, MADEP would conclude that the validity of the data is questionable and thus the quality control results are unacceptable. In such a case, the laboratory may supply documentation as to why the data should be accepted. There may be some instances in which the performance criteria is not met for a reason that can be explained, for example based on the properties of the methods or the analysis. It is left to the investigator in such cases to highlight this (these) issue(s) and provide justification for accepting the analytical data in light of the quality control results.

# **Selected List of Quality Control Elements**

Quality	Description	Frequency	Purpose	Synonyms
Sampling				
Duplicate Samples	Two or more samples collected simultaneously	At least one set of parallel samples per sampling event.	To improve confidence in measured concentrations.	Replicate samples; collocated samples; parallel samples.
Field Blank	Clean sampling device which accompanies sample to field and back to laboratory	At least one blank per sampling event	To assess contamination from transportation of samplers to and from the field.	Blank
Series Sampling (with cartridge sampling)	Two or more cartridges attached in series	One series sampling set-up per sampling location with highest expected concentrations.	To detect "breakthrough" and loss of sample	Back-up Cartridge
Amalusia	T	Т	T	
Analysis	Only and and lead	At 1	<b>T</b>	Disaste
Instrument Blank	Solvent spiked with Internal Standard (if used)	At least one per analytical batch (method-dependent)	To assess baseline drift of instrument and carryover of previous samples	Blank
Method Blank	Analyte-free sampling device analyzed like samples	One per analytical batch	To assess contamination from sample recovery	Blank
Matrix Spike (MS) and Matrix Spike Duplicates (MSD)	Aliquots of field samples spiked with compounds of interest and analyzed like samples	One MS/MSD per analytical batch	To assess accuracy and precision of analyses relative to matrix	Laboratory Fortified Matrix Spike

Standard Reference Material	Standard Matrix (air) with analytes at verified concentrations	One per batch	External source to assess accuracy of preparation and	Vendor- supplied standard; material-
			analysis	supplied standard



December 5, 2013

Ms. Kimberly Tisa US Environmental Protection Agency 5 Post Office Square Boston, MA 02109-3912

Subject: Certification of Information Availability

40 CFR 761.61 (c) Risk-Based Cleanup and Disposal Request

Former Capewell Manufacturing Facility 70 Popieluszko Court, Hartford, CT

Dear Ms. Tisa:

This letter certifies that information required by 40 CFR 761.61 (a) (3)(i)(E) is available for US EPA inspection at the CIL offices located at 157 Charter Oak Avenue, Hartford, CT. The information includes sampling plans, sample collection records, sample collection procedures, sample preparation procedures, extraction procedures and instrument/chemical analysis procedures used to assess or characterize PCB contamination at the cleanup site located at 70 Popieluszko Court, Hartford, CT. This certification supports the request for approval of risk-based cleanup of the site.

This certification is provided by CIL Development Inc., a wholly owned subsidiary of CIL, a non-profit community development organization that intends to conduct cleanup of the site, and Charter Oak Land, LLC, the owner of the property.

Please contact me at 860-509-6740 or our LEP, Paul Muniz, at 860-883-2511 if additional information is necessary, or if you would like to discuss this matter further.

Sincerely,

CIL Development Inc.

Martin Legault President/CEO

Charter Oak Land, LLC



December 5, 2013

Ms. Kimberly Tisa US Environmental Protection Agency 5 Post Office Square Boston, MA 02109-3912

Subject: Documentation of Legal Authority

40 CFR 761.61 (c) Risk-Based Cleanup and Disposal Request

Former Capewell Manufacturing Facility 70 Popieluszko Court, Hartford, CT

Dear Ms. Tisa:

This letter documents the fact that Capewell Lofts, LLC, a subsidiary of CIL to be created for the sole purpose of owning, developing and managing property located at 70 Popieluszko Court, in Hartford, CT, will have legal authority to access and conduct risk-based cleanup of the property upon taking title of the property.

CIL has established site control through a purchase agreement with the current owner of the property and will acquire the property, as noted above, undertake the cleanup plan described in the attached submittal, and redevelop the site only if the risk-based disposal request made in the submittal is accepted and approved by US EPA Region I.

A copy of relevant portions of the purchase agreement applicable to the property is attached to this letter.

This certification supports the request for approval of risk-based cleanup of the site.

Please contact me at 860-509-6740 or our PEP, Paul Muniz, at 860-883-2511 if additional information is necessary, or if you would like to discuss this matter further.

Sincerely,

Martin Legault President/CEO